SIERRA LEONE

# Annual Report

OF THE

# Medical and Sanitary Department

## For the Year 1930.

*Price : 2s. 6d.*

LIBRARY

1931.
Printed by the Government Printer, Freetown

London School of Hygiene & Tropical Medicine
LIBRARY
17 DEC 1931

## SIERRA LEONE

# Annual Report

OF THE

# Medical and Sanitary Department

## For the Year 1930.

G.P.O 2,868. 175—24-6-31.

Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

https://archive.org/details/b31491716

London School of Hygiene & Tropical Medicine
LIBRARY
17 DEC. 1931

# CONTENTS.

I—ADMINISTRATION :

PAGE

(*a*) Establishment, including Vacancies, Acting Appointments, etc. 1
(*b*) List of Ordinances, etc., affecting Public Health ... 2
(*c*) Financial .. ... ... ... ... ... ... 3

II—PUBLIC HEALTH :

(*a*) General Remarks ... ... ... ... ... 5
(i) General Diseases ... ... ... ... ... 5
Health of European Officials ... ... ... ... 5
Health of European Non-Officials .. ... ... 6
Health of African Officials ... ... ... ... 7
Health of African Troops ... ... ... ... 9
Health of African Police ... ... ... ... 9
Health of Prisoners and Mentally Insane ... ... 9
Institutional Treatment ... ... ... ... 9
(ii) Communicable Diseases ... ... ... ... 10
(*b*) Vital Statistics ... ... ... ... ... ... 12
General Population ... ... ... ... 12

III—PRISONS AND ASYLUMS :

Kissy Lunatic Asylum ... ... ... ... ... 15
Report on the Freetown Prison ... ... ... ... 16

IV—HYGIENE AND SANITATION :

*A*—General Review of Work done and Progress made ... 18
I—Preventive Measures ... ... ... ... ... 18
(*a*) Insect-borne Diseases ... ... ... ... 18
(*b*) Epidemic Diseases ... ... ... ... ... 21
(*c*) Helminthic Diseases ... ... ... ... 22
(*d*) Animal Diseases ... ... ... ... ... 24
II—General Measures of Sanitation ... ... ... 24
III—Water Supplies ... ... ... ... ... 27
IV—School Hygiene ... ... ... ... ... 28
V—Labour Conditions ... ... ... ... ... 28
VI—Housing and Town Planning ... ... ... ... 28
VII—Food in relation to Health and Disease ... ... 29
*B*—Measures taken to spread the Knowledge of Hygiene and Sanitation ... ... ... ... ... ... 30
*C*—Training of Sanitary Personnel ... ... ... ... 30
*D*—Recommendations for future Work ... ... ... 31
V—PORT HEALTH WORK AND ADMINISTRATION ... ... 31
VI—MATERNITY AND CHILD WELFARE ... ... ... 31
VII—HOSPITALS, DISPENSARIES AND VENEREAL CLINICS 32
VIII—METEOROLOGY ... ... ... ... ... ... 34

PAGE
IX—SCIENTIFIC ... ... ... ... ... ... 34
*A*—Connaught Hospital Laboratory Report ... ... 34
*B*—Notes on Surgical Cases... ... ... ... ... 36
*C*—Notes on a Survey of Leprosy in Sierra Leone ... 38

## TABLES.

I—Staff ... ... ... ... ... ... ... 41
II—Finance ... ... ... ... ... ... ... 43
III—Meteorological Returns ... ... ... ... ... 44
IV—Return of Diseases and Deaths, European ... ... ... 59
Return of Diseases and Deaths, African ... ... ... 72

## APPENDICES.

*A*—Report of the Surgical Specialist, Connaught Hospital ... 85
*B*—Maternity Ward, Connaught Hospital ... .. ... 88
*C*—The Effect of Street Drainage on the Number of Anophelines occurring in Freetown ... ... ... 90
*D*—School Medical Service ... ... ... ... ... 91
*E*—Report on Infant Welfare :
(*a*) Connaught Hospital and Campbell Street ... ... ... 104
(*b*) Princess Christian Mission Hospital ... ... ... 105
*F*—Ante-natal Clinic—Campbell Street Centre ... ... 106
*G*—Venereal Diseases Clinic ... ... ... ... ... 107
*H*—Report on the Princess Christian Mission Hospital ... 108

# Annual Report of the Medical and Sanitary Department for the year 1930.

## I—Administration.

### (*a*) ESTABLISHMENT, INCLUDING VACANCIES, ACTING APPOINTMENTS, AND PROMOTIONS.

#### Medical and Sanitary Staff.

1 Director of Medical and Sanitary Services.
1 Assistant Director of Health Service.
1 Surgical Specialist.
1 Senior Health Officer.
2 Senior Medical Officers.
1 Pathologist.
1 Medical Officer of Health.
13 Medical Officers of the West African Medical Staff.
1 Lady Medical Officer.
8 African Medical Officers.

#### European Nursing Staff.

2 Senior Nursing Sisters.
6 Nursing Sisters.

#### Subordinate Medical and Sanitary Staff.

1 Sanitary Superintendent and Training Officer.
2 European Superintendent Sanitary Inspectors.
1 Chief Dispenser.
1 Assistant Chief Dispenser.
10 First Class Dispensers.
10 Second Class Dispensers.
15 Third Class Dispensers.
1 Hospital Warden.
1 Chief Store-keeper.
2 Assistant Store-keepers.
33 Male Nurses and Apprentices.
27 Female Nurses and Probationers.
2 Midwives.
3 Health Visitors.
1 School Nurse.
42 Sanitary Inspectors and Learners.
1 Dispenser for Infant Welfare Clinic.
1 Head Attendant, Lunatic Asylum.
1 Assistant Head Attendant, Lunatic Asylum.
1 Matron, Lunatic Asylum.
3 Female Attendants, Lunatic Asylum.
12 Male Attendants, Lunatic Asylum.
2 Laboratory Assistants.

There are, in addition to above, cooks, stokers, gate-keepers, watchmen, labourers, hospital porters, carpenter, motor-ambulance driver, etc.

#### Clerical Staff.

There are nineteen clerks: 1 chief clerk, 1 first grade, 1 second grade, 9 senior third grade and 7 junior third grade.

### TEMPORARY ASSISTANCE.

No necessity arose for temporary assistance during the year.

### PRINCIPAL ACTING APPOINTMENTS.

(*Substantive Holders are given in Table 1.*)

Dr. J. M. MacKay, M.C., acted as Deputy Director, Health Service, from 4th to 23rd May.

Dr. A. B. Monks, acted as Deputy Director, Health Service, from 24th May to 20th September.

Dr. R. F. Campbell, acted as Senior Health Officer, from 24th May to 20th September and 19th October to 31st December.

### NEW APPOINTMENTS.

Dr. H. Peaston, appointed Medical Officer on the 1st, arrived Freetown on the 11th January.

Dr. M. M. MacDowall, appointed Lady Medical Officer on the 29th January, arrived Freetown on the 8th February.

Miss A. M. Pearton, appointed Nursing Sister on the 14th, arrived Freetown on the 24th May.

Dr. A. Cathcart, appointed Medical Officer on the 6th, arrived Freetown on the 16th August.

### PROMOTIONS.

Dr. J. M. MacKay, M.C., was promoted Assistant Director, Health Service, Gold Coast, on the 16th January

Dr. A. B. Monks, Medical Officer of Health, Gold Coast, promoted Senior Health Officer on the 16th January.

Dr. R. F. Campbell, was promoted Medical Officer of Health on the 4th February, *vice* Dr. F. V. Hill.

Dr. W. H. Peacock, was promoted Deputy Director, Health Service, Nigeria, on the 14th August.

Dr. J. A. A. Duncan, Senior Health Officer, Nigeria, promoted Assistant Director, Health Service, on the 16th August.

Dr. B. W. F. Wood, Medical Officer, Nigeria, promoted Senior Medical Officer on the 1st October, *vice* Dr. A. C. Paterson, transferred to the Gold Coast.

### RESIGNATION.

Dr. D. D. Barker, Medical Officer, resigned his appointment on the 8th December.

### RETIREMENTS.

Dr. J. W. Hartley, Medical Officer, on the 18th April.

Dr. J. D. Dimock, Medical Officer, on the 22nd May.

Miss E. D. Stoneman, Nursing Sister, on the 14th May.

## (*b*) LIST OF ORDINANCES, ETC., AFFECTING PUBLIC HEALTH ENACTED DURING THE YEAR.

### ORDINANCES.

Lunatics' Removal West African Colonies (Amendment) Ordinance, No. 7 of 1930.

Quarantine (Amendment) Ordinance, No. 8 of 1930.

Public Health (Protectorate) Rules, 1924, Revocation Ordinance, No. 9 of 1930.

### ORDERS IN COUNCIL.

Central Province Health Districts Order in Council, No. 10 of 1930.

Protectorate (Births and Deaths Registration Districts) Order in Council, No. 22 of 1930.

Public Health (Infectious Diseases) Order in Council, No. 23 of 1930.

Regent Road Market Order in Council, No. 13 of 1930.

### RULES.

Quarantine Rules, No. 4 of 1930.

Vaccination Fees (Amendment) Rules, No. 9 of 1930.

## (c) FINANCIAL.

The following table gives the revenue and expenditure* for the years 1929 and 1930 :—

| Medical Revenue. | 1929. £ | s. | d. | 1930. £ | s. | d. |
|---|---|---|---|---|---|---|
| Connaught Hospital receipts ... ... ... ... | 106 | 5 | 7 | 163 | 17 | 6 |
| European Hospital receipts ... ... ... ... | 676 | 5 | 3 | 642 | 15 | 10 |
| Sundry receipts (out-patients' fees, etc.) ... ... ... | 650 | 1 | 2 | 904 | 6 | 4 |
| Druggist fees (registration) ... ... ... | — | | | — | | |
| Maintenance of lunatics ... ... ... ... | 259 | 9 | 7 | 346 | 5 | 11 |
| Departmental fines ... ... ... ... | 11 | 9 | 7 | 2 | 15 | 11 |
| Total ... ... | £1,703 | 11 | 2 | £2,060 | 1 | 6 |

| Medical Expenditure. | 1929. £ | s. | d. | 1930. £ | s. | d. |
|---|---|---|---|---|---|---|
| Personal Emoluments ... ... ... ... | 40,790 | 7 | 9 | 41,121 | 14 | 6 |
| Other Charges ... ... ... ... | 24,386 | 10 | 1 | 22,099 | 7 | 7 |
| Total ... ... | £65,176 | 17 | 10 | £63,221 | 2 | 1 |

| Sanitary Revenue. | 1929. £ | s. | d. | 1930. £ | s. | d. |
|---|---|---|---|---|---|---|
| Sanitary services (contributions from Bonthe) ... | 3 | 3 | 6 | 3 | 3 | 0 |
| Maintenance of persons in quarantine ... ... | — | | | 29 | 6 | 8 |
| Total ... ... | £3 | 3 | 6 | £32 | 9 | 8 |

| Sanitary Expenditure. | 1929. £ | s. | d. | 1930. £ | s. | d. |
|---|---|---|---|---|---|---|
| Personal Emoluments ... .... ... ... | 8,894 | 19 | 2 | 10,222 | 19 | 10 |
| Other Charges ... ... ... ... ... | 14,726 | 2 | 4 | 12,884 | 4 | 8 |
| Total ... ... | £23,621 | 1 | 6 | £23,107 | 4 | 6 |

Ratios of combined Medical and Sanitary votes to total estimated revenue for the past five years :—

| Year. | £ | |
|---|---|---|
| 1926 ... ... ... | 78,916 | 1 : 11·7 |
| 1927 ... ... ... | 82,206 | 1 : 11·8 |
| 1928 ... ... ... | 88,365 | 1 : 11·07 |
| 1929 ... ... ... | 94,188 | 1 : 8·33 |
| 1930 ... ... ... | 97,975 | 1 : 7·86 |

---

*This sum is the expenditure controlled by the Director of Medical and Sanitary Services and does not include money spent by the Public Works Department on new buildings, sanitary works, etc.

## ANALYSIS OF HOSPITAL EXPENDITURE FOR THE YEAR 1930.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Institution. | Total Number of Patients. | Daily Average Number of Patients. | Hospital Days. | Provisions from Store-keeper. Total. | Fresh Provisions. Total. | 5 and 6 per Patient per Day. | Wines, Spirits, Minerals. Tobacco, Ice. Total. | 8 per Patient per Day. | 7 and 9 per Patient per Day. | Fuel, Light. Total. | Miscellaneous : Cleaning Materials, Hospital Equipment, Replacements. | Total of 5, 6, 8, 11 and 12. | 5, 6, 8, 11 and 12 per Patient per Day. | Total Sum Recoverable from Paying Patients. |
| | | | | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| European Hospital ... | 124 | 4 | 1,749 | 154 2 9½ | 251 17 11 | 0 4 7½ | 74 16 4 | 0 0 10¼ | 0 5 4¾ | 69 17 7 | 53 11 10 | 604 6 5½ | 0 6 1¾ | |
| Connaught Hospital | 2,384 | 96 | 33,101 | 638 18 11¾ | 926 14 10¾ | 0 0 11¼ | 26 15 7 | ... | 0 0 11¼ | 438 7 6 | 49 8 4 | 2,080 5 3½ | 0 1 3 | |
| Lunatic Asylum ... | 163 | 100 | 38,306 | 30 19 0 | 637 5 9 | 0 0 4 | 26 2 1 | ... | 0 0 4 | 43 3 1 | 34 19 7 | 772 9 6 | 0 0 4¾ | |
| Kissy Infirmaries ... | 237 | 79 | 29,224 | 40 7 2 | 551 1 7 | 0 0 4¾ | 21 11 6 | ... | 0 0 4¾ | 55 5 2 | 21 7 6 | 689 12 11 | 0 0 5½ | |
| Bonthe Hospital ... | 412 | 23 | 8,677 | 37 12 10 | 326 10 1 | 0 0 10 | 3 13 9 | ... | 0 0 10 | 26 15 10 | 14 15 1 | 408 7 7 | 0 0 11¼ | |

# II—Public Health.

## (a) GENERAL REMARKS.

### General Diseases.

From a health point of view, 1930 was a successful year for Sierra Leone; no serious epidemics occurred; Malaria was not unduly prevalent, and in general, the health of the community, as gauged by comparative tables of deaths, invalidings, hospital attendance, etc., was decidedly better than in 1929.

*European Officials.*—Table I reveals a general improvement in the European Officials' Health. All figures are less than those of 1929 other than the "average number resident." There were no official deaths, only three invalidings, one of which was for a non-tropical cause, and the number of cases of malaria fell from forty-two in 1929 to thirty-four in 1930.

### TABLE—I.

### Health of European Officials.

*Table showing Sick, Invaliding and Death-rates of European Officials.*

| — | 1928. | 1929. | 1930. |
|---|---|---|---|
| Total number of officials resident ... ... ... | 320 | 302 | 296 |
| Average number resident ... ... ... ... | 280 | 251 | 260 |
| Total number on sick list ... ... ... ... | 247 | 198 | 187 |
| Total number of days on sick list ... ... ... | 2,024 | 1,935 | 1,785 |
| Average daily number on sick list ... ... ... | 5·53 | 5·3 | 4·89 |
| Percentage of daily sick to average number resident ... | 1·97 | 2·11 | 1·88 |
| Average number of days on sick list to each patient ... | 8·19 | 9·77 | 9·54 |
| Average sick time to each resident ... ... ... | 7·22 | 7·7 | 6·86 |
| Total number invalided ... ... ... ... | 9 | 11 | 3 |
| Percentage of invalidings to total residents ... ... | 2·81 | 3·43 | 1·01 |
| Percentage of invalidings to average number resident ... | 3·21 | 4·38 | 1·15 |
| Total number of deaths ... ... ... ... | 1 | 1 | Nil |
| Percentage of deaths to total residents ... ... | ·31 | ·31 | — |
| Percentage of deaths to average number resident ... | ·35 | ·4 | — |

*Causes of Invalidings and Deaths of European Officials.*

| Causes. | Invalided. | Died. |
|---|---|---|
| Disability of left knee ... ... ... ... | 1 | — |
| Amœbic Hepatitis ... ... ... ... | 1 | — |
| Blackwater fever ... ... ... ... ... | 1 | — |
| Total ... ... | 3 | — |

*The invaliding rate of European Officials for the past ten years is shown below* :—

| Year. | Average Number Resident. | Total Number of Invalidings. | Percentage of Invalidings to Average Resident. | —— |
|---|---|---|---|---|
| 1921 ... ... | 144 | 15 | 10·41 | |
| 1922 ... ... | 109 | 5 | 4·58 | |
| 1923 ... ... | 102 | 14 | 13·72 | |
| 1924 ... ... | 164 | 13 | 7·92 | |
| 1925 ... ... | 180 | 5 | 2·77 | |
| 1926 ... ... | 184 | 6 | 3·26 | |
| 1927 ... ... | 250 | 16 | 6·40 | |
| 1928 ... ... | 280 | 9 | 3·21 | |
| 1929 ... ... | 251 | 11 | 4·38 | |
| 1930 ... ... | 260 | 3 | 1·15 | |

*European Non-Officials.*—Table II again reveals a satisfactory state of health. As in 1929, five deaths occurred and this fact combined with a decrease in the total number of non-official residents slightly raises the percentage death-rate. It will be seen that of the thirteen cases of invalidings and deaths, only eight were due to causes essentially tropical.

## TABLE—II.

### HEALTH OF EUROPEAN NON-OFFICIALS.

*Table showing Sick, Invaliding and Death-rates of European Non-officials.*

| —— | 1928. | 1929. | 1930. |
|---|---|---|---|
| Total number of non-officials resident ... ... ... | 380 | 420 | 398 |
| Average number resident ... ... ... ... | 301 | 325 | 318 |
| Total number on sick list ... ... ... ... | 51 | 48 | 40 |
| Percentage of sick to average number resident ... ... | 16·94 | 15·73 | 12·57 |
| Average number of days on sick list to each patient ... | — | — | — |
| Average sick time to each resident ... ... ... | — | — | — |
| Total number invalided ... ... ... ... | 14 | 17 | 8 |
| Percentage of invalidings to total residents ... ... | 3·68 | 4·14 | 2·01 |
| Percentage of invalidings to average number resident ... | 4·66 | 5·23 | 2·51 |
| Total deaths ... ... ... ... ... | 4 | 5 | 5 |
| Percentage of deaths to total residents ... ... | 1·05 | 1·19 | 1.25 |
| Percentage of deaths to average number resident ... | 1·32 | 1·53 | 1·57 |

*Causes of Invalidings and Deaths of European Non-officials.*

| Causes. | Invalided. | Died. |
|---|---|---|
| Blackwater fever ... ... ... ... | — | 1 |
| Cerebral Malaria .. ... ... ... | — | 1 |
| Cerebral Tumour ... ... ... ... | — | 1 |
| Lobar Pneumonia ... ... ... ... | — | 1 |
| Malaria ... ... ... ... ... | 2 | — |
| Myocarditis ... ... ... ... .. | 1 | — |
| Pulmonary Tuberculosis ... ... ... | — | 1 |
| Sinusitis ... ... ... ... ... | 1 | — |
| Tropical Buboes ... ... ... ... | 3 | — |
| Tropical Ulcer ... ... ... .. | 1 | — |
| Total ... ... | 8 | 5 |

*African Officials.*—A considerable increase in the number of the days on the sick list combined with a drop in the total number sick serves to produce a set of figures somewhat misleading as to the general health of the African official community, and while it is true that the numbers of invalidings and deaths have increased it must be borne in mind that with a depression in the financial state of the Colony, the yearly fluctuation in the composition of the African official community has almost ceased, thus leaving us with a smaller number of officers with a higher "total of number of years lived" on which to base our percentages; in other words, stasis brings about a higher average age per officer and thus makes possible the greater percentage of incidence of those diseases common in the middle years of life. It will be noticed from Table III that of the total of twenty invalidings and deaths only two can be attributed to causes essentially tropical and that diseases of middle and later life account for no less than nine cases.

The average African is averse to institutional treatment; the increase in the average number of days on the sick list combined with capacity occupation of the Connaught Hospital wards can thus be taken to indicate an increasing appreciation of the value of hospital treatment.

## TABLE—III.

### HEALTH OF AFRICAN OFFICIALS.

*Table showing Sick, Invalidings and Death-rates of African Officials.*

| ——— | 1928. | 1929. | 1930. |
|---|---|---|---|
| Total number of official residents ... ... ... | 1,265 | 969 | 979 |
| Average number resident ... ... ... ... | 1,050 | 969 | 970 |
| Total number on sick list ... ... ... ... | 967 | 1,057 | 1,048 |
| Total days on sick list ... ... ... ... | 6,415 | 7,486 | 9,052 |
| Average daily number on sick list ... ... ... | 17·52 | 25 | 24·8 |
| Percentage of daily sick to average number resident ... | 1·66 | 2·58 | 2·55 |
| Average number of days on sick list to each patient ... | 6·63 | 7·08 | 8·63 |
| Average sick time to each resident ... ... ... | 6·10 | 7·72 | 9·33 |
| Total number invalided ... ... ... ... | 25 | 8 | 12 |
| Percentage of invalidings to total resident ... ... | 1·98 | ·83 | 1·22 |
| Percentage of invalidings to average number resident ... | 2·38 | ·83 | 1·23 |
| Total deaths ... ... ... ... ... | 9 | 6 | 12 |
| Percentage of deaths to total residents ... ... | ·71 | ·61 | ·91 |
| Percentage of deaths to average number resident ... | ·85 | ·61 | ·92 |

*Causes of Invalidings and Deaths of African Officials.*

| Causes. | Invalided. | Died. |
|---|---|---|
| Aterio-Sclerosis and Myocarditis ... ... | 1 | — |
| Aterio-Sclerosis and General Debility ... ... | 1 | — |
| Aterio-Sclerosis and Chronic Rheumatism ... ... | 1 | — |
| Auricular Fibrillation and Perineal Fistulæ ... | 1 | — |
| Chronic Arthritis ... ... ... ... | 1 | — |
| Chronic Bronchitis ... ... ... ... | — | 1 |
| Diarrhœa ... ... ... ... ... | — | 1 |
| Disseminated Sclerosis ... ... ... ... | 1 | — |
| Fracture of Right Tibia and Fibula ... ... | 1 | — |
| Glycosuria and Senile Choroiditis ... ... | 1 | — |
| Local Injury ... ... ... ... ... | — | 1 |
| Malaria ... ... ... ... ... | — | 1 |
| Neurasthenia ... ... ... ... | — | 1 |
| Pulmonary Tuberculosis ... ... ... | 2 | — |
| Senile Debility ... ... ... ... | 1 | — |
| Stiffness and Pain in the Dorsal Region ... ... | 1 | — |
| Syphilitic Aortitis ... ... ... ... | — | 1 |
| Valvular Disease of the Heart ... ... ... | — | 2 |
| Total ... ... | 12 | 8 |

## TABLE SHOWING THE COMPARATIVE FIGURES OF THE HEALTH OF AFRICAN OFFICIALS FOR THE LAST TEN YEARS.

| Year. | Average Number of Officials. | Number on Sick List. | Number of Days off Duty through Sickness. | Average Sick Time to each Official. | Number Invalided. | Percentage of Invalidings to Average Number. | Total Deaths. | Percentage of Deaths to Average Number. |
|---|---|---|---|---|---|---|---|---|
| 1921 | 750 | 1,248 | 7,780 | 10·37 | 24 | 3·20 | 6 | 1·20 |
| 1922 | 750 | 1,071 | 7,887 | 10·38 | 7 | 0·93 | 6 | 0·83 |
| 1923 | 750 | 879 | 7,586 | 10·11 | 13 | 1·73 | 7 | 0·93 |
| 1924 | 900 | 1,009 | 8,920 | 9·91 | 18 | 2·00 | 5 | 0·55 |
| 1925 | 997 | 1,121 | 8,735 | 8·76 | 18 | 1·80 | 10 | 1·00 |
| 1926 | 1,000 | 950 | 5,375 | 5·37 | 6 | 0·60 | 4 | 0·40 |
| 1927 | 1,000 | 933 | 7,919 | 7·91 | 20 | 2·00 | 4 | 0·40 |
| 1928 | 1,050 | 967 | 6,415 | 6·10 | 25 | 2·38 | 9 | 0·85 |
| 1929 | 969 | 1,057 | 7,486 | 7·72 | 8 | ·83 | 6 | 0·61 |
| 1930 | 970 | 1,048 | 9,052 | 9·33 | 12 | 1·23 | 8 | 0·92 |

## HEALTH OF AFRICAN TROOPS.

The following table shows the health of the African troops. Appearance before the Medical Officer for but petty complaints accounted for an increase in the total number on the sick list. There were no epidemics of any kind and the death-rate as an index of health shows a satisfactory position.

### TABLE—IV.

*Royal West African Frontier Force (Non-European).*

| Average Strength of Battalion in 1930. | Total Number of Deaths. | Death-rate per 1,000. | Total Number of Men on Sick List. | Sick Rate per 1,000 |
|---|---|---|---|---|
| 346 | 2 | 5·78 | 1,836 | 5,306 |

## HEALTH OF AFRICAN POLICE.

The health of the Police was excellent, as the following table shows. The disparity between the number of Police and the number of Africans on the sick list is illuminating.

*Police*

| Total Number of Men. | Total Number of Deaths. | Death-rate per 1,000. | Total Number of Men on Sick List. | Sick Rate per 1,000. |
|---|---|---|---|---|
| 296 | 2 | 6·75 | 320 | 1,081 |

## HEALTH OF PRISONERS AND MENTALLY INSANE.

A report covering these will be found in Section III—" Prisons and Asylums."

## INSTITUTIONAL TREATMENT.

The number of new cases applying for treatment and the number attending subsequently both show a reduction when compared with 1929. Deaths in both Europeans and Africans also show a decrease of two and seventy-three, respectively.

The following tables give comparisons for the last three years:—

| ——— | 1928. | 1929. | 1930. |
|---|---|---|---|
| IN-PATIENTS : | | | |
| European ... .. ... ... ... | 157 | 147 | 127 |
| African ... ... ... ... ... | 3,535 | 4,431 | 4,642 |
| OUT-PATIENTS : | | | |
| European ... ... ... ... ... | 532 | 448 | 511 |
| African ... ... ... ... ... | 83,417 | 97,505 | 94,975 |
| Total ... .. ... ... | 87,641 | 102,531 | 100,255 |
| DEATHS : | | | |
| European ... ... ... ... ... | 3 | 7 | 5 |
| African ... ... ... ... ... | 278 | 368 | 295 |
| Total ... ... ... ... | 281 | 375 | 300 |
| Percentage of deaths to total number treated ... | ·32 | ·36 | ·29 |
| Showing decrease or increase of total number of patients treated ... ... ... ... | — | +14,890 | −2,276 |
| Subsequent attendances ... ... ... ... | — | 247,438 | 227,343 |

The following table shows the main illnesses for the cure of which patients applied at the various hospitals and dispensaries. Figures for 1929 are also given:—

| Diseases. | 1929. | 1930. |
|---|---|---|
| Yaws | 16,927 | 14,082 |
| Acute Rheumatism | 814 | 845 |
| Chronic Rheumatism | 4,654 | 4,327 |
| Diseases of the spleen | 278 | 262 |
| Hemiplegia | 121 | 164 |
| Neuritis | 171 | 178 |
| Other affections of the nervous system such as paralysis agitans | 203 | 184 |
| Conjunctivitis | 1,014 | 706 |
| Affections of the ear or mastoid sinus | 295 | 912 |
| Other Diseases of the Heart | 51 | 37 |
| Valvular | 14 | 16 |
| Mitral | 177 | 151 |
| Aortic | 40 | 49 |
| Hæmorrhoids | 61 | 113 |
| Lymphadenitis, bubo (non-specific) | 563 | 668 |
| Coryza | 957 | 1,082 |
| Acute Bronchitis | 5,964 | 5,239 |
| Chronic Bronchitis | 3,089 | 3,694 |
| Asthma | 119 | 106 |
| Other affections of the lungs | 631 | 1.058 |
| Caries, pyorrhœa, etc. | 1.760 | 1,665 |
| Gastritis | 504 | 348 |
| Dyspepsia | 3,464 | 3,812 |
| Diarrhœa and Enteritis two years and over | 1,099 | 925 |
| Ankylostomiasis | 81 | 158 |
| Cestoda (tænia) | 272 | 264 |
| Ascaris | 3,952 | 3,417 |
| Diseases due to intestinal parasite unclassified | 3 | 3 |
| Hernia | 449 | 612 |
| Constipation | 7.871 | 6,592 |
| Other affections of the digestive system | 393 | 677 |
| Acute Nephritis | 68 | 62 |
| Schistosomiasis | 51 | 97 |
| Epididymitis | 52 | 47 |
| Orchitis | 338 | 362 |
| Hydrocele | 188 | 230 |
| Ulcer of the penis | 134 | 208 |
| Abscess | 613 | 878 |
| Tinea | 344 | 296 |
| Scabies | 1,416 | 1.545 |
| Eczema | 352 | 360 |
| Osteitis | 348 | 381 |
| Arthritis | 2,770 | 1,190 |
| Other Diseases of the bones or organs of locomotion | 2,805 | 2.164 |
| Wounds (by cutting or stabbing instruments) | 1,235 | 1,312 |
| Fracture | 149 | 156 |
| Other external injuries | 4,527 | 6,347 |
| Ascites | 44 | 54 |
| Oedema | 138 | 186 |
| Asthenia | 713 | 655 |

## (ii) COMMUNICABLE DISEASES.

*Malaria.*—Preventive measures are described under Section III.

*In Europeans.*—With a greater average number of Europeans resident in 1930, Malaria was slightly less prevalent than in 1929. Thirty-four in-patients and eighty-two out-patients were treated in 1930, as against forty-two in-patients and eighty-five out-patients in 1929.

The following table shows the relative position of malaria as a cause of "lost time" in Europeans during the last five years:—

| Year. | Average Number Resident. | Total Sick Days. | Total Days spent on Sick List for Malaria. | Total Days spent on Sick List for other Causes. | Percentage of Malaria Days to Total Days. | Number of Days lost through Malaria for year per 100 Residents. |
|---|---|---|---|---|---|---|
| 1926 | 184 | 1,575 | 487 | 1,088 | 30·92 | 264 |
| 1927 | 250 | 1,816 | 497 | 1,319 | 27·36 | 198 |
| 1928 | 280 | 2,024 | 626 | 1,398 | 30·92 | 223 |
| 1929 | 251 | 1,935 | 435 | 1,500 | 22·48 | 173 |
| 1930 | 260 | 1,785 | 526 | 1,259 | 29·46 | 202 |

*In Africans.*—Infection showed a small increase in 1930. Owing to the absence of a Government Pathologist it was found impossible to classify all cases of malaria as in former years. During the year there were 6,101 cases of malaria of all types with seven deaths. These figures (European and African) include eleven cases of malarial cachexia and six cases of Blackwater (including one European fatal) with malaria as the predisposing cause.

The following table gives the comparative figures for the past three years:—

| Disease. | 1928. | 1929. | 1930. |
|---|---|---|---|
| Malaria—Tertian ... ... ... ... ... | 1 | 145 | 45 |
| Malaria—Quartan ... ... .. ... ... | 3 | 12 | nil |
| Aestivo-autumnal ... ... ... ... ... | 5,240 | 1,858 | 1,957 |
| Unclassified ... ... ... ... ... ... | — | 3,558 | 4,082 |
| Cachexia ... ... ... ... ... ... | 10 | 18 | 11 |
| Blackwater ... ... ... ... ... ... | 12 | 6 | 6 |

*Blackwater Fever.*—As in 1929, six cases were reported in 1930; one fatal case being a European, two fatal Syrians and three non-fatal Africans.

*Trypanosomiasis.*—Lack of available funds has caused the closing down of the experimental work being carried on at the Cape Lighthouse. Eleven cases of Trypanosomiasis were reported in 1930 as against two in 1929. The majority of these cases were reported from the Protectorate where undoubtedly a fruitful field for investigations presents itself when funds become available.

*Smallpox.*—Only two cases, both being ship-board infections landed at Freetown, were reported in 1930. Action taken is outlined under "Port Administration." During the year 131 cases of chicken-pox were reported from all stations, a mild outbreak occurred at Pujehun in the Southern Province.

*Dysentery.*—Four hundred and twenty-nine cases were treated in 1930 as against 343 in 1929. The absence of a whole time Pathologist prevented identification of the type in all cases. Two hundred cases were shown as amœbic, three as bacillary and two hundred and twenty-six as "undefined." Dysentery tends to show a rising curve in recent years. In Section III doubtless the Assistant Director of Health Service will touch upon the preventive side of the question especially in respect of nightsoil disposal.

It should here be noted that in many instances, the given number of diseases treated does not correspond with the numbers reported. This is due to the occassional laxity of reporting officers. In future a more accurate return will be called for. Dysentery was made notifiable in late 1929.

*Tuberculosis.*—During the year, 152 cases were diagnosed. Sixteen deaths occurred as against 136 cases with fifteen deaths in 1929.

Tuberculosis was made notifiable in late 1929.

*Leprosy.*—Increasing numbers of lepers are reporting to out-stations, 521 having presented themselves in 1930 as against 431 in 1929. In the present financial depression it is impossible to set up adequate Asylums throughout the Protectorate, though it is hoped that on a return of prosperity definitely progressive action will be taken in collaboration with the Paramount chiefs of the various Protectorate tribes.

*Enteric Group.*—Three cases were notified and treated in Freetown of which one case of paratyphoid occurred in a European. Twelve other cases of a non-defined types were treated at the Connaught Hospital (African).

*Yaws.*—The numbers treated fell off considerably in 1930—only 14,082 cases appearing as against 16,927 in 1929.

*Venereal Diseases.*—These figures also show a decrease. The various affections will be found in a tabulated list given in Appendix G. Comparative figures for the past five years are as follows:—

| Disease. | 1926. | 1927. | 1928. | 1929. | 1930. |
|---|---|---|---|---|---|
| Gonorrhœa ... ... ... | 1,701 | 2,286 | 2,564 | 2,753 | 2,581 |
| Syphilis ... ... ... .. | 874 | 2,116 | 1,836 | 895 | 605 |

## (*b*) VITAL STATISTICS.

### General Population.

*Registration.*—The duties in connection with the registration of births and deaths were taken over by the Health Department in July, 1930, when the Births and Deaths Registration (Amendment) Ordinance, 1929, came into force. At this time also action was being taken in the matter of dividing the Protectorate into new provinces and districts, and it was considered unwise to declare the new registration districts, until the divisions of the new political districts had been decided. In the Protectorate therefore, the former Registrars were allowed to carry on until the end of the year, and for the period under review registration was not and could not be enforced, owing to the lack of machinery necessary to administer the Ordinance. Consequently the figures for the Protectorate are of no value whatever from a statistical point of view and are not included in the tables, the total number of births and deaths recorded being fifty-five and seventeen, respectively. Next year, figures will be given for all the new Protectorate Districts to be created, similar to those for the Colony in Table B.

The new Ordinance provides for the compulsory registration of all births and deaths in the Colony. In the Protectorate, registration will be compulsory for non-natives, i.e. Europeans, Asiatics, Syrians and Colony-born Africans; and optional for natives. Owing to the apathy of the native in matters appertaining to public health, it is unlikely that he will exercise this option to any great extent and this elementary form of registration is to be regarded as a preliminary to the introduction later of compulsory registration for natives in well established medical districts. In the meantime much useful work can be accomplished by means of propaganda to pave the way to this desirable end: the Ordinance provides for the application of a clause embodying such compulsory registration on the request of a native chief.

The present staff consists of:—

The Chief Registrar; The Deputy Chief Registrar.

*Colony*—Registrars 18;

*Protectorate*—Registrars 10; Deputy Registrars 22.

*Rates.*—The last census taken in 1921 gave the population of Freetown and the Colony as follows:—

| | |
|---|---|
| Freetown, including Cline Town ... ... ... | 44,142 |
| Colony, excluding Freetown ... ... ... | 41,021 |

Since that time all rates have been calculated on these figures, as though the population had remained stationary, a very unlikely state of affairs in any community over a period of years. The next census will be taken in 1931 when it is expected that the population of Freetown will reach the figure of 50,000 or more. This figure has been taken as the basis of calculation of the birth and death-rates for 1930, which are therefore not comparable with those given in the table for the last five years. By adopting the figure of 50,000 as an estimate of the population for 1930, it is hoped to obtain more valuable statistics from which to gauge the general health of the community.

The total number of births registered in Freetown was 1,102 (males 552 and females 550) equivalent to 22·04 per 1,000 of the estimated population. (Tables A and B.) These figures are certainly far below the number of births which actually took place, owing to the fact that it has not been possible to enforce the law as regards registration of births. Steps have been taken to remedy this defect and, with the staff of sanitary inspectors available to carry out these duties in the course of their daily inspections, it is expected that the number of births registered next year will provide a reliable basis from which to calculate the birth-rate.

Seventy-five still-births were registered. Native women are very loath to disclose the fact of not having carried a baby to full term; so this figure is probably much below the number of still-births which took place.

The total number of deaths registered in Freetown was 1,358 (males 741 and females 617) affording a rate of 27·16 per 1,000 of the estimated population. There was therefore an excess of 256 registered deaths over registered births. The figures for deaths can be relied upon; every death must be registered before burial is allowed, all the cemeteries in Freetown being under control.

The infant mortality rate was 336 per 1,000 births. This figure is unduly pessimistic on account of the high percentage of births which are not registered. (Tables D and F.)

The maternal mortality per 1,000 live births was 12·70. The causes of maternal mortality are shown in Table E.

*Tables.*—Next year, when the census figures of age and sex distribution of the population are available, it will be possible to calculate the standardized death-rate and also to construct tables showing birth and death-rates for the last five years based on inter-censal estimates of population.

*Colony.*—Calculated on a population of 45,000, the birth-rate for the Colony (excluding Freetown) was 17·5 and the death-rate 18·64 per 1,000 of the population. Birth and death-rates for the Colony for the last five years, similar to those in Table A, have not appeared in previous reports. They will be included next year when the census figures are available.

### TABLE A.

*Birth, Death and Infant Mortality Rates for Freetown, (including its suburb, Cline Town) for the last five years.*

| Year. | Population. | Births Registered. | Birth-Rate. | Deaths Registered | Death-Rate. | Number of Deaths under Twelve Months. | Infant Mortality Rate. |
|---|---|---|---|---|---|---|---|
| 1926 | 44,142 | 1,074 | 24 | 1,231 | 27·9 | 318 | 296 |
| 1927 | ,, | 1,010 | 22·8 | 1,290 | 29·2 | 355 | 351 |
| 1928 | ,, | 1,036 | 23·5 | 1,389 | 31·5 | 377 | 364 |
| 1929 | ,, | 1,093 | 24·8 | 1,450 | 32.8 | 349 | 319 |
| 1930 | 50,000 (estimated) | 1,102 | 22·04 | 1,358 | 27·16 | 371 | 336 |

Note.—For the first six months of 1930 the registration of births and deaths was under the control of the Registrar-General and during that period there was no machinery for enforcing the registration of births. Hence the birth-rate appears lower and the infant mortality rate higher than they really are.

### TABLE B.

*Births and Deaths recorded at all registration districts in the Colony.*

| DISTRICTS. | BIRTHS. | | | DEATHS. | | | DEATHS UNDER TWELVE MONTHS. | | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. | Males. | Females. | Total. | |
| Freetown ... | 509 | 493 | 1,002 | 635 | 537 | 1,172 | 174 | 148 | 322 | |
| Cline Town ... | 43 | 57 | 100 | 106 | 80 | 186 | 21 | 28 | 49 | |
| Banana Islands... | 3 | 7 | 10 | 6 | 10 | 16 | 1 | 1 | 2 | |
| Hamilton ... | 12 | 8 | 20 | 19 | 15 | 34 | 3 | 4 | 7 | Infant |
| Hastings ... | 22 | 22 | 44 | 27 | 22 | 49 | 7 | 1 | 8 | mortality |
| Kent ... | 11 | 13 | 24 | 7 | 6 | 13 | 3 | 2 | 5 | rate:— |
| Kissy ... | 22 | 22 | 44 | 49 | 42 | 91 | 3 | 5 | 8 | |
| Murray Town... | 28 | 25 | 53 | 34 | 43 | 77 | 11 | 15 | 26 | Freetown |
| Regent ... | 22 | 13 | 35 | 13 | 21 | 34 | 4 | 3 | 7 | including |
| Sherbro Judicial | 32 | 36 | 68 | 43 | 42 | 85 | 8 | 12 | 20 | Cline Town, |
| Songo Town ... | 58 | 58 | 116 | 58 | 44 | 102 | 11 | 9 | 20 | 336. |
| Tassoh Island ... | 47 | 29 | 76 | 38 | 28 | 66 | 15 | 11 | 26 | |
| Tombo ... | 17 | 30 | 47 | 30 | 17 | 47 | 6 | 6 | 12 | Colony |
| Waterloo ... | 39 | 38 | 77 | 47 | 40 | 87 | 4 | 7 | 11 | other than |
| Wellington ... | 32 | 17 | 49 | 23 | 23 | 46 | 8 | 7 | 15 | Freetown, |
| Wilberforce ... | 32 | 40 | 72 | 19 | 31 | 50 | 6 | 12 | 18 | 249. |
| York ... ... | 29 | 26 | 55 | 24 | 18 | 42 | 8 | 4 | 12 | |
| Total ... | 958 | 934 | 1,892 | 1,178 | 1,019 | 2,197 | 293 | 275 | 568 | |

## TABLE C.

*Principal Causes of Death at all ages in Freetown, 1930.*

| Causes. | Number of deaths registered. | | | Percentage of total deaths. | Death-rate per 1,000 of population. |
|---|---|---|---|---|---|
| | Certified. | Uncertified. | Total. | | |
| Malaria ... ... ... ... | 18 | 137 | 155 | 11·41 | 3·10 |
| Bronchitis ... ... ... | 4 | 159 | 163 | 12·0 | 3·26 |
| Pneumonia ... ... ... | 47 | 104 | 151 | 11·11 | 3·02 |
| Tuberculosis, all forms ... ... | 16 | 13 | 29 | 2·13 | 0·58 |
| Heart disease ... ... ... | 49 | 43 | 92 | 6·76 | 1·84 |
| Cerebral Hæmorrhage ... ... | 14 | 11 | 25 | 1·84 | 0·5 |
| Nephritis ... ... ... ... | 13 | 23 | 36 | 2·65 | 0·72 |
| Enteritis ... ... ... ... | 12 | 65 | 77 | 5·67 | 1·54 |
| Peritonitis ... ... ... | 8 | 4 | 12 | 0·88 | 0.24 |
| Strangulated Hernia ... ... | 2 | 9 | 11 | 0·81 | 0·22 |
| Septicæmia ... ... ... | 20 | 11 | 31 | 2·28 | 0·62 |
| Tetanus ... ... ... ... | 8 | 14 | 22 | 1·62 | 0·44 |
| Infantile convulsions ... ... | 6 | 58 | 64 | 4·71 | 1·28 |
| Premature birth ... ... ... | 17 | 48 | 65 | 4·78 | 1·3 |
| Senility ... ... ... ... | 11 | 54 | 65 | 4·78 | 1·3 |
| Asthenia ... ... ... ... | 6 | 9 | 15 | 1·10 | 0·30 |

NOTE.—Only 23·5 per cent. of all deaths in Freetown were registered on Medical Certificate. Five deaths were certified as due to Blackwater Fever : three in Europeans, two in Syrians. Seven deaths, all certified, were registered as due to Malignant Tumours.

## TABLE D.

*Causes of Deaths under Twelve months, Freetown, (including Cline Town) 1930.*

| Causes. | Number of deaths. | | | |
|---|---|---|---|---|
| | Certified. | Uncertified. | Total. | Percentage of deaths under twelve months. |
| Malaria ... ... ... ... ... | 1 | 76 | 77 | 20·75 |
| Enteritis ... ... ... ... ... | — | 21 | 21 | 5·7 |
| Whooping Cough ... ... ... ... | — | 3 | 3 | 0·8 |
| Bronchitis ... ... ... ... ... | 1 | 83 | 84 | 22·6 |
| Pneumonia ... ... ... ... ... | 6 | 12 | 18 | 4·9 |
| Pulmonary Congestion ... ... ... | 1 | — | 1 | 0·27 |
| Tuberculosis ... ... ... ... | 1 | — | 1 | 0·27 |
| Laryngitis ... ... ... ... ... | 1 | — | 1 | 0·27 |
| Asphyxia ... ... ... ... ... | 7 | — | 7 | 1·9 |
| Atelectasis ... ... ... ... ... | 1 | 5 | 6 | 1·6 |
| Premature Birth ... ... ... ... | 17 | 48 | 65 | 17·5 |
| Tetanus Neonatorum ... ... ... ... | 2 | 16 | 18 | 4·9 |
| Infantile Convulsions ... ... ... | 5 | 42 | 47 | 12·6 |
| Anæmia ... ... ... ... ... | — | 1 | 1 | 0·27 |
| Toxæmia ... ... ... ... ... | 2 | — | 2 | 0·5 |
| Marasmus ... ... ... ... ... | 1 | — | 1 | 0·27 |
| Asthenia ... ... ... ... ... | — | 8 | 8 | 2·2 |
| Debility ... ... ... ... ... | 6 | 4 | 10 | 2·7 |
| Total ... ... | 52 | 319 | 371 | 100 |

## TABLE E.

*Maternal Deaths Associated with Pregnancy and Child-bearing, Freetown, 1930.*

| Cause of Death. | Number of Deaths. | | | Maternal Mortality rates per 1,000 live births. |
|---|---|---|---|---|
| | Certified. | Uncertified. | Total. | |
| Eclampsia ... ... ... ... | 1 | — | 1 | Diseases and Accidents of Pregnancy : 2·72. |
| Premature Birth and Pre-Eclamptic Toxaemia ... ... ... ... | 1 | — | 1 | |
| Hyperpyrexia, Anaemia and Miscarriage | 1 | — | 1 | |
| Obstructed Labour ... ... ... | 1 | — | 1 | Accidents of Child-birth : 2·72. |
| Collapse following difficult labour ... | — | 1 | 1 | |
| Shock following operation for difficult labour .. ... ... ... | 1 | — | 1 | |
| Septicaemia following abortion ... | 1 | — | 1 | Puerperal Sepsis 6·35. |
| Puerperal Septicaemia ... ... | 3 | 1 | 4 | |
| Puerperal Fever and Pneumonia ... | 1 | — | 1 | |
| Puerperal Fever, Hyperpyrexia ... | 1 | — | 1 | |
| Puerperal Convulsions ... ... | 1 | — | 1 | 0.90 |
| Total ... ... | 12 | 2 | 14 | |

Note.—The Maternal Mortality from all accidents and diseases of pregnancy was 12·70 per 1,000 live births. This figure and the rates given above are unduly high on account of the large percentage of births which are not registered.

## TABLE F.

*Deaths at various ages up to twelve months with percentages of total deaths under twelve months, Freetown.*

| Year. | Under one month. | 1—3 months. | Total under three months. | 3—6 months. | 6—12 months. | Total under twelve months. |
|---|---|---|---|---|---|---|
| 1929 | 189 or 54·2 per cent. | 51 or 14·6 per cent. | 240 or 68·8 per cent. | 50 or 14·3 per cent. | 59 or 16·9 per cent. | 349 |
| 1930 | 200 or 53·9 per cent. | 53 or 14·2 per cent. | 253 or 68·2 per cent. | 53 or 14·2 per cent. | 65 or 17·7 per cent. | 371 |

Note.—In 1930, 124 deaths took place in children under 7 days=62 per cent. of the deaths under one month.

## III—Prisons and Asylums.

### KISSY LUNATIC ASYLUM.

*Staff*:—Medical Officer-in-charge
First Class Dispenser
Chief Attendant
Assistant Chief Attendant
12 Male Attendants
Matron
3 Female Attendants
1 Cook
4 Porters.

The following table gives the statistical details of patients during the year:—

| | Males. | Females. | Total. |
|---|---|---|---|
| Remaining in the Asylum 31st December, 1929 ... | 66 | 45 | 111 |
| Admitted under observation ... ... ... | 45 | 19 | 64 |
| ,, certified ... ... ... | — | 1 | 1 |
| Number subsequently certified ... ... ... | 18 | 7 | 25 |
| Discharged after observation ... ... ... | 27 | 11 | 38 |
| ,, as cured ... ... ... | 3 | 7 | 10 |
| ,, on trial by Governor's Order ... | 2 | — | 2 |
| Deaths ... ... ... ... ... | 19 | 8 | 27 |
| Absconded ... ... ... ... | 1 | — | 1 |
| Remaining in Asylum 31st December, 1930 ... | 59 | 39 | 98 |

## REPORT ON THE FREETOWN PRISON FOR THE YEAR 1930.

The report and statistical tables submitted by the Medical Officer in charge, Freetown Prison, reveal an excellent standard of health throughout the year. No epidemics of any kind were encountered; beriberi did not once occur. The statistical tables have been somewhat altered from those of former years, but for comparative purposes it can be stated that although the average number of prisoners was increased from 243 in 1929 to 263 in 1930, the total number admitted to hospital (i.e. sick list), was 246 in 1929 as compared with 186 in 1930 and the death-rate fell from 78·19 per mille in 1929 to 4·06 per mille in 1930.

Dr. Jennings was in charge during the majority of the year. Mr. Robbin-Coker continued as resident dispenser throughout the year.

### Health of Prison Officers.

*European.*—Very good: one was on sick list for four days with malaria.

*African.*—Satisfactory: forty-nine were treated as out-patients, 31 of whom were placed on the sick list: eight were admitted to the Connaught Hospital, one of whom was subsequently invalided from the Service with Cardiac disease.

*Health of Prisoners.*—Good: one hundred and eighty-six were admitted to hospital, including some for observation. The diseases were mostly malaria, bronchitis, helminthic infections and the usual venereal diseases.

The daily average on the sick list was 6·4, the daily average strength being 263·8.

No epidemic occurred throughout the year. Examination of the fæces of some new admissions revealed the presence of Entamœba Histolytica—but treatment was promptly administered and no symptoms developed in any case.

An increase in the number of stools infected with ankylostomes led to an examination of the stools of 273 prisoners. Of this number we found that 108 showed the presence of ankylostomes. Treatment by oil of chenopodium and carbon tetrachloride was instituted, when it was found that the former was much more efficacious—ankylostomes disappeared from the fæces in 80 per cent. of those treated with oil of chenopodium— and that after one dose only. After full doses of carbon tetrachloride, ankylostome ova were still found.

One death occurred during the year in the prison; the cause of death being pulmonary tuberculosis and mitral regurgitation. Two deaths occurred at the Connaught Hospital—prisoners who had undergone major operations.

Eight other cases were operated on by the Surgical Specialist and were returned cured: they were cases of hernias and hydrocele.

There were no post-mortem examinations during the year. Six cases sent to Kissy Asylum on Emergency Certificates. Two were returned but were again sent and subsequently detained

All prisoners were weighed monthly throughout the year—the weights ranging from 90—200 lbs. In the majority of cases an increase of weight was noted. Where there is a loss of weight, the case is investigated, and the cause of the loss is shown to be due mainly to change of labour, or, rarely, to some pathological conditions.

Three hundred and eleven vaccinations were performed, of which 255 were successful.

There were 3 executions and 3 corporal punishments.

The total number of new cases was 1,177 and subsequent attendances totalled 8,073.

The sanitation was excellent.

*Visits.*—His Excellency the Governor
His Excellency the Acting Governor
The Governor's Deputy
Director of Medical and Sanitary Services
Deputy Director of Health Service.

# FREETOWN PRISON.

## Statistical Return for the Year 1930.

| | |
|---|---|
| In hospital at end of December, 1929 ... ... | 15 |
| Admitted during the year 1930 ... ... ... | 186 |
| Remaining in hospital at end of December, 1930 ... | 4 |

| — | March Quarter. | June Quarter. | September Quarter. | December Quarter. | Total. |
|---|---|---|---|---|---|
| Admitted ... ... | 38 | 48 | 71 | 29 | 186 |
| Cured ... ... ... | 28 | 30 | 32 | 27 | 117 |
| Improved or relieved ... | 12 | 10 | 10 | 8 | 40 |
| Not relieved ... ... | 4 | 5 | 2 | 1 | 12 |
| Died ... ... ... | 1 | — | — | — | 1 |
| Observed only ... ... | 4 | 3 | 4 | 1 | 12 |

Daily average number of prisoners ... ... ... 263·8

| — | New-comers. | Remand and Trial. | Corporal Punishment. | Execution. |
|---|---|---|---|---|
| March quarter ... ... ... | 240 | 34 | — | 3 |
| June quarter ... ... ... | 287 | 54 | 1 | — |
| September quarter ... ... ... | 248 | 43 | 2 | — |
| December quarter ... ... ... | 187 | 38 | — | — |
| Total ... ... | 962 | 169 | 3 | 3 |

*Out-Patients.*

| — | New Cases. | Subsequent Attendances. |
|---|---|---|
| March quarter ... ... ... | 311 | 1,996 |
| June quarter ... ... ... | 270 | 1,566 |
| September quarter ... ... | 248 | 2,030 |
| December quarter ... ... | 270 | 2,481 |
| Total ... ... | 1,099 | 8,073 |

| Freetown Prison. | 1928. | 1929. | 1930. |
|---|---|---|---|
| Total number of prisoners admitted ... ... | 755 | 851 | 902 |
| Average strength ... ... ... ... | 258 | 243 | 263 |
| Total deaths ... ... ... ... ... | 4 | 19 | 3 |
| Total number of prisoners on sick list ... ... | 141 | 246 | 186 |
| Daily average number on sick list ... ... | 5·15 | 6·17 | 6·8 |
| Daily sick-rate per 1,000 of average strength ... | 19·96 | 25·39 | 25·85 |
| Death-rate per 1,000 of average strength ... ... | 15·50 | 78·19 | 11·40 |

| Prison. | Daily Average Number in Custody in 1930. | Daily Sick-rate per 1,000 of Average Strength. | Death-rate per 1,000 of Average Strength. |
|---|---|---|---|
| Freetown ... ... ... | 263 | 25·85 | 11·40 |
| Pujehun ... ... ... ... | 26 | 32·30 | — |
| Batkanu ... ... ... ... | 32 | 31·25 | 31·25 |
| Kenema ... ... ... ... | 64 | 20·31 | — |
| Moyamba ... ... ... | 41 | 13·17 | 24·39 |

# III—Hygiene and Sanitation.

## A—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE.

### I—Preventive Measures.

### (*a*) *Insect-borne Diseases.*

*Malaria.*—During the period 7th June to the 20th November the staff of the Sir Alfred Lewis Jones Laboratory carried out the first part of the malaria survey which was mentioned in the Report for 1929. A short note on their preliminary findings is attached as Appendix C. It is satisfactory to record that the measures taken by the Health Department have proved effective in reducing the amount of mosquito breeding to such an extent that the workers engaged in the survey were often at great pains to obtain the necessary pabulum for their research.

During the same period the Lady Medical Officer carried out daily examinations of children in Freetown schools. These examinations, over 1,600 in number, demonstrate the greater incidence of malaria amongst the children attending school in the area of the West Ward now being canalized. Her report is attached, Appendix D.

A great portion of Sanders Brook has been canalized, the surrounding ground filled in and levelled and the tributary drains completed. It will be interesting to note the findings of future examinations of the children attending school in this area. Most of these children reside in the district and a great reduction of the infectivity rate is to be expected.

Mosquito larvae found by the Sanitary Inspectors in the course of their daily inspections are brought to the Medical Officer of Health for identification; it is worthy of note that in not one single instance were anopheline larvæ found in the compounds during the year.

The high incidence of malaria amongst the school children seems to indicate that the small number of mosquitoes which inhabit the houses are heavily infected. In this respect, the prevalence of thatched roofs, lack of adequate ventilation, and overcrowding in the congested areas must also be important factors in the spread of malaria, and the conclusion of the school Medical Officer, that active measures should be directed against the adult mosquito, seems to be warranted.

It is hoped that immediate advantage will be taken of the funds which will be made available under the new building scheme for the replacement of thatched roofs by corrugated iron sheets. There is no doubt but that the former, aided by general lack of ventilation, provide ideal situations for the hibernation of mosquitoes.

The preventive measures carried out against malaria differ in but small details from those of former years.

(*a*) *House to House Inspection.*—144,897 compounds were inspected and mosquito larvae were found on 451 occasions:—

| | |
|---|---|
| Aedes ... ... ... ... | 266 |
| Culex ... ... ... ... | 185 |
| | 451 |

In all cases the occupants of the compounds were prosecuted. 417 persons were convicted and fined; 34 cases were dismissed or cautioned.

The larval index was ascertained at the end of each quarter. 350 compounds were inspected on each occasion. The results were as follows:—

| | |
|---|---|
| First quarter ... .. | 0·28 per cent |
| Second „ ... ... | 2·86 „ |
| Third „ ... ... | 0·86 „ |
| Fourth „ ... ... | 0·28 „ |

The larval index was thus at its highest during the wet season, as would be expected, and although the rainfall was considerably lower than that of 1929 the larval index was higher than that for the corresponding period of that year. The probable explanation is the amount of scouring which occurs during very heavy rain, the larvae being washed away into the larger drains and channels.

## ERRATUM.

Page 18. The heading "III—Hygiene and Sanitation" should read "IV—Hygiene and Sanitation."

The common anopheles found in extra-mural breeding places was, as in previous years, *A. gambiæ*.

(*b*) *Oiling of Pools and Gutters.*—The oiling gangs operated from 6th June to 5th November. 102,461 pools and 858 gutters were oiled. Watery cesspits were oiled regularly throughout the year.

(*c*) *Tree Inspection.*—8,004 trees were inspected. 2,652 holes were chipped and 5,037 were filled in with a mixture of coal tar and cement. 99 tree-holes were found to contain larvae:—

| | |
|---|---|
| Anopheles ... ... ... | 1 |
| Aedes ... ... ... ... | 63 |
| Culex ... ... ... ... | 35 |
| | 99 |

(*d*) *Inspection of Boats and Canoes.*—10,104 boats and canoes were inspected and overturned to remove stagnant water when necessary. No mosquito larvae were discovered.

(*e*) *Temporary Canalization.*—The five brooks, namely, Alligator Brook, Nicols Brook, Moore's Brook, Granville Brook and Sanders Brook were canalized at the end of the rainy season, the latter requiring less attention than usual, owing to the permanent canalization referred to above. Routine grading and clearing of earth ditches were also carried out.

(*f*) *Drainage.*—The following concrete surface drainage was carried out in Freetown by the Public Health Engineer:—

(i) Construction of new drains at George Street (West), Regent Road, Truscott Street to Frederick Street, Fourah Bay Road (Lower Bombay Street to Magazine Cut), Kissy Road and Little East Street.

(ii) Re-construction of drains at Portuguese Town Spring, Little Kroo Street to out-fall with 18 inch culverts, Abbot Street with 14 inch culverts, and Elk Street with 18 inch culverts.

(iii) Repairs and improvements to drains at Mountain Cut, Charlotte Street, Kissy Road, Westmoreland Street out-fall drain, West Street, Jones Street and Cline Street.

(iv) Sanders Brook. Approximately one-third of the canalization of this stream has been completed and the programme of street drainage for the year in connection with this canal completed.

(v) Reclamation of the cliffs at Sanders Brook Valley, Moore's Brook out-fall and Lombard Street wharf was carried out. Hitherto, pools forming in these situations have been prolific sources for the breeding of mosquitoes.

(*g*) *Clearing of Grass and Bush.*—During the wet season large gangs of labourers were taken on for the clearing of high grass, weeds and bush, to eradicate the lurking places of mosquitoes and aid in the detection of tins, bottles, and other articles liable to hold water. 10,557 notices were served upon the occupiers of compounds for clearing of grass and weeds. Thirty persons were prosecuted and twenty-four were convicted and fined for failing to comply with these notices.

*Filariasis.*—Although this disease does not figure in the table in the medical section showing the main illnesses for the cure of which patients applied at the various hospitals and dispensaries for treatment during the year, it must not be regarded as a disease of minor importance in Sierra Leone.

The following extract from page 5 of Part I (Northern Province) of Blacklock's "Report on a Survey of Human Diseases in the Protectorate of Sierra Leone," published in 1930, is of interest:

"On all such occasions as time permitted during travel, examination of blood was carried out, the total number of persons examined in this way being 636. Various forms of blood films were used according to the parasites investigated.

*Microfilaria.*—The night blood of 259 persons was examined and in thirty-eight cases, or nearly 15 per cent., *microfilaria bancrofti* was found.

The day blood of 257 persons was examined and in only two of them, i.e. less than 1 per cent. was *microfilaria loa* present. One of these two cases was a Temne now living at Masimera; he had served in the Cameroons with the West African Frontier Force. The other was a Susu; he stated that he had never been in the Cameroons and never in French territory; he gave his name as Alkaly Kakuna, and said he was born at the village of Fohnia in the Kambia District, his chief being Alimamy Kolleh.

In addition, four persons were found who had *microfilaria bancrofti* in their day blood, but only one or two were found in each case. In two day bloods and two night bloods *microfilaria perstans* was present."

Table IX (page 12) shows the distribution of forty-nine cases of Elephantiasis.

| Area. | Population Examined. | Number of Cases. |
|---|---|---|
| Mabera to Magbele ... ... | 710 | 7 |
| Gbabai to Yonibana ... ... | 622 | 9 |
| Port Loko to Batkanu, etc. ... | 427 | 14 |
| Magburaka to Kamabai ... ... | 1,075 | 19 |

In the Central and Southern provinces (Part II) the day blood of 151 persons was examined for *microfilariæ;* in five cases a few *mf. bancroftii* were present, but neither *mf. loa* nor *mf. volvulus* was found.

In these provinces the total number of persons who underwent a general examination of the body was 5,153. Table XV (page 11) shows the distribution of forty-two cases of Elephantiasis.

| Area. | Population Examined. | Number of Cases. |
|---|---|---|
| Pujehun to Mongheri ... ... | 1,557 | 14 |
| Rotifunk to Kenema ... ... | 2,090 | 12 |
| Pendembu to Segbwema ... | 1.506 | 16 |

In Freetown, not less than two per cent. of the anophelines dissected were found infected with filaria, (Appendix C).

The following table of *microfilaria* surveys in Freetown undertaken by the Sir Alfred Lewis Jones Research Laboratory in 1930, are of interest:—

| Date. | Place. | Number Examined. | Sex. | Species. | Number shewing Microfilaria. | Percentage. |
|---|---|---|---|---|---|---|
| April, 1930 ... | Prison | 134 | Male | bancrofti | 26 | 19·03 |
| | | | | perstans | 3 | 2·24 |
| September, 1930 | Connaught Hospital | 80 | Male and Female | bancrofti | 7 | 8·75 |
| | | | | perstans | 1 | 1·25 |

The diagnosis was made in every case by examining one thick film of blood taken between 9.0 and 11.0 p.m.

In the case of the prison it must be stated that a large number of the prisoners were brought down from the Protectorate where they probably acquired the infection. Examinations made in the Connaught Hospital were made on all patients, some of whom did not show signs of elephantiasis.

Although there are no recent statistics available as to the number of Culicines or Aëdes infected, the need for the thoroughly supervised house to house inspection which is carried out daily by the Sanitary Inspectors is emphasized and also the necessity for personal prophylaxis against mosquito bites.

*Trypanosomiasis.*—Eleven cases were notified during the year. The medical officer stationed at Bo, in forwarding reports on two cases, called attention to the existence of an endemic area in the Central Province and it is worthy of note that more than half of the cases were reported from this area.

*Yellow Fever.*—This Colony remains singularly free from this disease in spite of the fact that the most prevalent mosquito in Freetown is aedes. As mentioned in the report for last year the serum of one child out of thirty-four school children examined was found to protect monkeys from an inoculation of 100,000 minimum lethal doses of yellow fever virus. It is possible, therefore, that this disease may account for a proportion of the many deaths which are registered without medical certificates.

## (*b*) EPIDEMIC DISEASES.

*Plague.*—There were no cases notified during the year. 1,957 rats collected in Freetown were examined by the Pathologist. None were found infected. One penny was paid for each rat brought in and 46,308 were thus purchased. Trapping and poisoning were carried out in the area of the wharves and Customs sheds and in the premises of the firms. The strictest supervision was maintained of passengers from infected ports and baggage was disinfected when considered necessary.

*Smallpox.*—Two cases of smallpox were imported during the year, the diagnosis being doubtful in one case. No epidemic occurred. Twenty-three cases of chicken-pox were admitted to the Infectious Diseases Hospital.

Vaccinations were performed during the year as follows:—

| Places. | Total Number, Vaccinated. | Successful. | Unsuccessful. | Not Seen. |
|---|---|---|---|---|
| Freetown ... ... .. ... | 3,906 | 2,412 | 1,114 | 380 |
| Kent ... ... ... ... | 163 | 127 | 32 | 4 |
| Regent ... ... ... ... | 44 | 43 | 1 | — |
| York ... ... ... ... | — | — | — | — |
| Waterloo ... ... ... ... | 318 | 305 | 11 | 2 |
| Batkanu ... ... ... ... | 323 | 255 | 33 | 25 |
| Kenema ... ... ... ... | 184 | 174 | 9 | 1 |
| N'jala ... ... ... ... | — | — | — | — |
| Panguma ... ... ... ... | 242 | 194 | 15 | 33 |
| Pendembu, Segbwema and Daru ... | 981 | 721 | 61 | 199 |
| Sembehun ... ... ... ... | 259 | 219 | 24 | 16 |
| Sumbuya ... ... ... ... | 98 | 55 | 17 | 26 |
| Bo ... ... ... ... | 604 | 509 | 26 | 69 |
| Bonthe ... ... ... ... | 203 | 153 | 20 | 30 |
| Makeni ... ... ... ... | 1.385 | 882 | 216 | 287 |
| Moyamba ... ... ... ... | 571 | 333 | 152 | 86 |
| Port Loko ... ... ... ... | 206 | 123 | 54 | 29 |
| Pujehun ... ... ... ... | 696 | 384 | 174 | 138 |
| Kabala ... ... ... ... | 4 | — | 4 | — |
| Kaiyima ... ... ... ... | 683 | 176 | 230 | 277 |
| Mano Salija ... ... ... | 149 | 124 | 14 | 11 |
| Kailahun ... ... ... ... | 66 | 25 | 15 | 26 |
| Goderich ... ... ... ... | — | — | — | — |
|  | 11,085 | 7.214 | 2,222 | 1.639 |
| And in the schools ... ... ... | 2,430 | 1.403 | 862 | 165 |
| Grand Total ... ... | 13,515 | 8,617 | 3,084 | 1,804 |

*Diphtheria.*—One case was diagnosed. A male child aged two years and eight months, living at Fourah Bay Road, Freetown, was admitted to the Princess Christian Mission Hospital on the morning of the 17th August, the fifth day of illness, with symptoms of laryngeal diphtheria. A tracheotomy was performed and the child subsequently recovered. Swabs taken from the throat were positive and cultures from the swabs were positive for *corynebacterium diphtheriæ*. Cultures from the throat swabs of the contacts were all negative.

It proved impossible to isolate the diphtheria bacillus in pure culture owing to the large number of organisms present. Hence unfortunately, the virulence of the organism was not tested.

*Dysentery.*—261 cases were notified from all districts as compared with 256 in 1929. Of these, 47 occurred in Freetown as compared with 46 in 1929 and the number of deaths registered on medical certificate in Freetown was 5 as compared with 7 for the previous year.

*The Enteric Group.*—One case of typhoid and 2 of paratyphoid *B* were notified at Freetown.

In view of Professor Blacklock's findings, outlined in the Annual Report for 1929, it is evident that lack of laboratory facilities for diagnosis at out stations must be to some extent responsible for the fact that no cases were notified from the Protectorate.

Preventive measures adopted against the enteric diseases were:—improvement and protection of water supplies; provision of salga type latrines; and efficient collection and incineration of refuse.

*Tuberculosis.*—Of the 90 cases notified during the year, 30 were in Freetown, as compared with 46 of the total of 86 cases recorded in 1929.

The deaths registered on medical certificate in Freetown as due to tuberculosis were 16 as compared with 19 for 1929, the number of uncertified deaths being 13 as compared with 3 for the corresponding year. In all cases of deaths from this disease the premises were fumigated.

Tuberculosis appears to be on the increase in some of the larger towns of the Protectorate. For instance, at Bo, 17 cases were notified, whereas only 3 cases were notified during 1929, and at Pujehun there were 7 cases, none being recorded last year.

*Pneumonia.*—123 cases of pneumonia were notified during 1930 as compared with 157 for 1929. In Freetown, there was a marked reduction in the number of cases, 61 being notified as compared with 104 in 1929. Analysis of the cases recorded at Freetown during each month for these years does not indicate any marked seasonal influence on incidence or mortality from pneumonia.

*Leprosy.*—Leprosy cases are presenting themselves for treatment in increasing numbers; this being reflected in the bi-monthly notifications of diseases. 460 such notifications were received in 1930, compared with 392 in 1929.

The position as regards leprosy in Sierra Leone is summed up by Dr. Easmon in his " Notes on Leprosy " *see* page 38.

Funds do not at present permit of the establishment of farm-colonies for lepers where adequate treatment and supervision could be given.

*Yaws.*—Again this disease easily headed the list of patients receiving treatment at the hospitals and dispensaries; 14,082 cases were seen as compared with 16,927 in 1929.

There is no evidence available to show whether this decrease in the numbers treated represents an actual decrease in prevalence in the areas served by hospitals and dispensaries.

### (*c*) HELMINTHIC DISEASES.

*Ankylostomiasis.*—158 cases were treated in the hospitals and dispensaries compared with 81 in 1929.

The small number of cases treated does not indicate that this is a disease of minor importance in Sierra Leone. Reference to Table IX in Appendix D will show that there is a high rate of infection amongst the school children in the Protectorate and the disease is prevalent in a lesser degree in Freetown and in the rural schools of the Colony.

The faeces of 83 cases under supervision, examined by Blacklock at Port Loko, Batkanu and the Freetown Prison in 1929, showed an infection rate of over 85 per cent.

In the Protectorate, hookworm infections amongst Europeans are not infrequently met with.

*Ascariasis.*—This infection is widespread. 3,417 cases received treatment in the hospitals and dispensaries compared with 3,952 in 1929. All the schools inspected by the school Medical Officer showed a high rate of infection amongst the children (Appendix D).

*Schistosomiasis.*—Ninety-seven cases were treated during the year, compared with 51 in 1929.

The following extract from pages 22 and 23 of Part II of Blacklock's " Report on a Survey of Human Diseases in the Protectorate of Sierra Leone " best sum up the facts about this diseases:

" The urine of numbers of persons at various places was examined for the presence of schistome ova; the numbers examined varied greatly for the different localities according to the time available. As a routine the schools, if any, in the villages were first examined and for the information of the school authorities it has been thought advisable to state the infection figures found in each of the schools examined. The total number of persons, including the school children, whose urine was examined amounted to 952, of whom 195 gave positive findings. The population examined and the positive cases are given for each area in Table XXXV.

## TABLE XXXV.

Showing the distribution of 195 cases of *S. Hœmatobium* Infection:—

| Area. | Population Examined. | Positive Cases. | Percentage. |
|---|---|---|---|
| Pujehun to Mongheri ... | 292 | 15 | 5 |
| Rotifunk to Kenema ... | 462 | 44 | 9 |
| Pendembu to Segbwema | 198 | 136 | 8 |

The above figures do not necessarily indicate the endemic prevalence as is shown below when reviewing the positive cases occurring in the schools. Several of the positive cases found were children who did not belong to the village or even the district in which the examinations were made.

The figures of positive results in examinations made at schools are given in Table XXXVI.

## TABLE XXXVI.

Showing cases of *S. Hœmatobium* infection found in school children:—

| Name of School. | Place. | Children Examined. | S. Hæmatobium Ova Present in Urine. |
|---|---|---|---|
| U.M.C. School ... ... | Bandajuma | 18 | 0 |
| U.M.C. School ... ... | Kpeyama | 12 | 0 |
| School ... ... | Gbangema | 13 | 2 (*a*) |
| R.C.M. School ... ... | Koribondo | 10 | 3 (*b*) |
| W.M. School ... ... | Sumbuya | 39 | 2 (*c*) |
| U.M.C. School ... ... | Tikonko | 25 | 0 |
| U.B.C. School .. ... | Mongheri | 13 | 4 |
| U.B.C. School ... ... | Rotifunk | 58 | 0 |
| U.B.C. School ... ... | Shenge | 42 | 0 |
| R.C. School ... ... | Sembehun | 35 | 1 (*d*) |
| U.B.C. School ... ... | Sembehun | 36 | 0 |
| U.B.C. School ... ... | Moselolo | 11 | 0 |
| U.B.C. School ... ... | Gbangbaia | 18 | 1 (*e*) |
| Schools ... ... | Mattru | 40 | 0 |
| G.R. School ... ... | Zimi | 33 | 1 |
| W.M. School ... ... | Pendembu | 27 | 25 |
| G R. School ... ... | Pendembu | 18 | 17 |
| C.E. School ... ... | Kailahun | 20 | 18 |

(*a*) Both boys born at Jaima Chiefdom.

(*b*) Two cases boys born at Jenneh ten miles from Blama, one case boy born at Jimmi District.

(*c*) One case boy born at Bo, live subsequently at Boadjibu, one case had travelled for a long time in Kailahun and Pendembu districts.

(*d*) One case boy born at Baiima, Pendembu District.

(*e*) Case boy born at Panguma, states he was stolen from there when four years of age by a man who subsequently decamped and stranded him at Gbangbaia.

It appeared probable that the boys specifically mentioned had acquired their infection at the places named which are in endemic areas. Possible results of introducing infected cases from endemic into non-endemic areas will be referred to at the end of this section.

*Endemic Localities.*—In the following places visited, the disease was apparently endemic, judging by the number of infected cases and the history of their birthplace and residence:—

Mongheri, Giema, Pendembu, Kailahun, Buyedu, Kangama, Dia (Kissi), Woroma, Sandaru (Kono), Segbwema.

*Physopsis globosa* was discovered in the streams at the following places:—

Giema, Pendembu, Kailahun, Buyedu, Kangama, Dia, Mano (Kissi), and Segbwema.

Infection with cercariæ of human schistosomiasis was established by dissection of snails at the followng places:—

Giema, Pendembu, Kailahun, Buyedu, Segbwema.

At the time of my visit to Mongheri, I looked for snails in the streams frequented by the boys of the school, but did not succeed in finding them. Dr. Walls, however, subsequently found snails in that area and forwarded them to the Medical Department in Freetown. They were forwarded to me for identification and proved to be *P. globosa* and also infected.

An effort was made to trace the origin of all cases found, and either to exclude them as imported or to discover physopsis breeding where the cases came from. One village called Jimmi off the Koribondo-Sumbuya road was suspected on account of the statements of infected persons, but a prolonged search of the streams was not possible, and it might be worth reinvestigating this area as it is rather far south and it would be important to know whether there are physopsis existing in the locality."

The report continues with a discussion on infected streams and infected snails and measures recommended for the eradication of the infection in the endemic areas.

Early in 1930, the Senior Health Officer during the course of inspections of the towns of Kailahun and Pendembu, called on the chiefs to provide adequate latrine accommodation and take steps to prevent the pollution of the washing places: at Kailahun, the rocks adjoining the washing place in the stream showed evidence of having been freely used as a latrine and physopsis globosa was found without difficulty. It is to the credit of the Chiefs concerned that steps were immediately taken to clear the banks of the stream and large numbers of men turned out to dig new latrines.

### (*d*) Animal Diseases.

A serious outbreak of cattle disease, attended by very high mortality amongst the animals affected, was reported from the Kissi section of the Pendembu District in June. The Medical Officer, Daru, made inspections of the villages in the Kissi country and reported as follows:—

> "It would appear from all reports that the disease started in French Guinea and appeared first in Sierra Leone over two months ago. It was not reported by any of the people in this country until quite recently—and then only after a considerable number of cattle had died.................In some of the towns visited all the cattle had died. In Kwendu, a town in Kissi Kama, there was only one cow left out of forty-eight. In Twudu, in the same chiefdom, there were nine cows left alive out of fifty-two..........................the loss of money sustained by cattle owners is considerable and the danger of the spreading of the infection is grave."

The principal cattle owners in each village were visited and a description of the disease obtained from them. The disease was evidently dying out; during the course of the trek only one cow showing symptoms was seen and a post-mortem examination was made on another animal which had died the same day.

Symptoms and signs were entirely consistent with rinderpest, which diagnosis was provisionally made and later confirmed by information received from the Commandant at Gueckedou, French Guinea, where the disease had appeared in January in the Kissi circle.

In the absence of a Veterinary Department in Sierra Leone a memorandum on rinderpest was prepared by the Acting Deputy Director of Health Service and distributed to District Commissioners, Medical Officers, Sanitary Inspectors, and Station-masters on the railway. Transport of cattle by rail was prohibited.

The memorandum contains explicit instructions on diagnosis, post-mortem signs and methods of control to be adopted against the spread of any future outbreak.

## II—GENERAL MEASURES OF SANITATION.

*Sewage Disposal.*—There are fifteen public latrines in Freetown, accommodating 193 pails. During the year, one new latrine was erected at Montague Street and repairs effected to those at King Jimmy, Susan's Bay and Nanna Kroo Street. Owing to the difficulty of finding suitable sites it is unlikely that any more public latrines will be erected.

The better class residents use latrine pails, which are removed by private contract. Altogether 700 pails are emptied daily into the sea and strict watch has to be maintained when the tide is out to prevent dumping of nightsoil along the foreshore of populous areas. The latter objectionable and insanitary practice has on occasion given rise to complaints, entirely justified, from the residents and business concerns having their premises along the shorefront.

The majority of the citizens have cesspits in their compounds; 4,798 cesspits were counted during the year and notices issued for removal of the contents, whitewashing and disinfection when necessary. This method for the disposal of night soil of a town of over 50,000, inhabitants cannot be considered a sanitary ideal. Fly-breeding does not appear to be common but grave nuisance often arises, especially in the more congested areas, from the foul odours emanating from these pits which are sometimes situated within a few yards of a wall or fence separating adjacent small properties. Towards the end of the dry season the water is turned off for several hours daily to prevent wastage. This results in a negative pressure in the pipes and the presence of a large number of cesspits in close proximity must be regarded as a very likely source of pollution of the water supply.

When funds permit, this state of affairs could be remedied by the provision of one or more conveniently situated collecting tanks for suitable preliminary treatment of the nightsoil prior to discharge into the sea *via* closed channels opening into deep water. The pail system with house to house collection, though expensive, has proved eminently satisfactory when methods of collection and disposal are well organized and must remain the system in use on this coast for many years to come.

*Refuse Collection and Disposal.*—Any scheme of scavenging a town necessarily comprises two different but interconnected duties, viz:—

(1) *Refuse Collection.*

(2) *Refuse Disposal* by means of (*a*) incineration (*b*) dumping at sea, or (*c*) tipping on land.

In the consideration of the refuse problem in Freetown it may be taken that no matter what form of ultimate disposal might be adopted, the scheme of refuse collection must remain a constant, varying only in cost according to the length of haulage performed in taking the refuse to the point where refuse collection merges into disposal. It might be as well to detail here the system in operation in 1930.

*Refuse Collection.*—Situated at convenient points of the city and distributed according to the density of the population are seventy-four public dustbins. A new and more sanitary type is generally replacing the very insanitary old type which possessed many undesirable features. This year one new type rat-proof dustbin was erected at Williams Street and two similar dustbins of double capacity were erected at Montague Street and Peterson Street.

The inhabitants of the city take refuse to these bins from whence it is removed by a fleet of six one ton lorries.

The refuse removed daily approximated to 26 tons, or 9,500 tons per annum. The cost of collection, including drivers' wages, upkeep and maintenance of lorries, and wages for labourers emptying dustbins not approachable by lorries, was £2,090 or 4/6 per ton approximately, a really very high figure, caused by the following factors:—

(i) Unsuitable type of lorry.

(ii) Frequent and very costly repairs; nearly £800 in 1930.

(iii) Badly situated dustbins, unapproachable by lorry, and necessitating emptying by "head load" gang; this alone cost £426 in 1930.

(iv) Inefficient system of lorry filling, slow in operation and thus requiring more labourers per lorry.

(v) The careless habits of the populace who, in throwing refuse around the dustbins, cause much unnecessary labour in keeping the surrounding ground in a sanitary condition.

This was the system of collection in use, and, subject to certain modifications, it must remain. Improvements and economies can, and have been effected, and these will be discussed later.

*Refuse Disposal.*—This was effected by means of two hopper barges drawn by a Diesel engined tug. The barges have a dead weight capacity of approximately 10 tons each. These were filled at Lombard Street Wharf, to which place the lorries brought the refuse, and were then towed about five miles out to sea. Two slow combustion incinerators of two tons capacity were designed to burn a portion of the lighter combustible material.

The annual recurrent expenditure on this method of disposal is in the neighbourhood of £1,000.

It cannot be stated that this system of disposal has been an unqualified success, for the following reasons:—

(i) The system is intermittent in that the barges can approach Lombard Wharf only on the flood, and when laden, must leave the wharf before the ebb.

(ii) It is subject to mechanical breakdowns which have been far from uncommon. Indeed on two occasions over 80 tons of refuse were seen lying on the wharf awaiting shipment.

(iii) It is slow. One journey takes about five to six hours. Meantime refuse must be dumped on the wharf instead of into the hoppers, thus necessitating double handling.

(iv) It does not give full service as the barges are not sufficiently capacious; they are incorrectly designed, must be manually emptied, a somewhat dangerous task, and these factors combined with those of items (1) and (3) throw undue strain on the slow combustion incinerators which, in the wet season cannot cope with sodden refuse.

(v) It is expensive in that the double handling of refuse, and the necessity of "sorting" of tins and bottles prior to incinerating the refuse which cannot be taken to sea require a constant gang at Lombard Wharf. This cost £474 in 1930.

From one cause or another in 1930 the barges made only 142 trips to sea at a cost of £845, (Harbour Master's figures), to which must be added £27 for labour necessary for emptying. This works out at an approximate cost of £6 3*s*. per trip. Even assuming that the barges can carry their 10 tons dead weight, (which is doubtful), the cost still works out at 6/- per ton or approximately 1/3 per ton mile, a very high figure indeed for a system which is far from being 100 per cent. efficient and of which complaints were constantly received on the amount of debris washed up on Lumley Beach, the recreation resort of Freetown. The total cost of collection and disposal in 1930 was therefore in the neighbourhood of 10/6 per ton.

This then is a review of the scavenging system in operation in 1930, a scheme which might have worked well enough unhandicapped by the disadvantages outlined above.

## ECONOMIES PROJECTED UNDER REFUSE COLLECTION.

(i) It was realized that the type of lorry was too light in construction, and of insufficient capacity. The former caused many breakdowns, the latter, many journeys. The new lorries are of much stronger structure and are of over 50 per cent. greater capacity. It must however still be urged that the correct type of lorry is a sturdy English product of three to four tons capacity, as is used in Lagos. Their cost is high, but in the long run is justified by greater efficiency and longer life.

(ii) By a "zonal" arrangement of lorry service an amount of overlapping running has been eliminated. These two items are expected to show an economy of £250 in 1931.

(iii) Formerly, twenty-six dustbins were emptied and the refuse incinerated by "headload" gangs at a cost of £426 per annum. This system has ceased and a saving of £250 will be effected in 1931.

(iv) Formerly, empty lorries halted at a dustbin and were then filled by hand. Recently, every lorry has been equipped with a number of large baskets which are filled by the boys attached to the lorries, while the filled lorry is on its way to Lombard Wharf. On its return to the dustbin the already filled baskets quickly load up the lorry, thus saving time in loading and allowing a lorry to perform more trips. It is hoped to effect a further saving of £100 in this manner.

On the scheme of "Refuse Collection" it is thus hoped to show a saving of £600 per annum in any complete fiscal year.

## ALTERNATIVE SCHEMES OF REFUSE DISPOSAL.

(*a*) *Incineration in a forced draught Destructor.*—This is the modern and sanitary ideal. It is costly to instal and expensive to maintain but it is efficient. One cannot however, but feel that had Freetown possessed its present electric light scheme in full operation in 1925 a cheaper destructor could have been quoted, devoid of the expensive power engine to supply the forced draught, and thus rendering the expense of engineers, etc., unnecessary. The requisite power for the blower could have been obtained by electric current. Detailed figures as to modern destructor costings are not yet available, but there is no doubt that a simple destructor, sufficiently large for the needs of Freetown, and operated electrically, could be installed at a cost far below the 1925 estimate and that a site could be found where tins and bottles could be "tipped" thus abolishing the need for sea transport. The Colonial Development Fund might look sympathetically on such a scheme when presented in concrete form. The recurrent cost of upkeep and running would nevertheless be fairly high and including depreciation could not fall far short of £1,500, though a good portion of this sum would be represented by electric power charges, and thus adjusted interdepartmentally.

In this time of financial stringency there is however yet another scheme which should receive consideration, viz:—

(*b*) *Tipping on land far removed from habitations.*—This is not an ideal method and might appear to be a retrograde step. It might be concluded that it would cause nuisance, rat breeding, etc. Nevertheless it must be borne in mind that in England even to this day it is probable that more rubbish is tipped on land than is dumped at sea or incinerated, and that, in a densely populated country whose sanitation is held to rank second to none.

There are adjacent to Freetown and abutting on the Sierra Leone Government Railway large tracts of land devoid of population. The proposal therefore is that by arrangement with the General Manager of the Railway, refuse should be taken by rail to a place well removed from Freetown, i.e. five to nine miles, and convenient for tipping. A ravine carrying a stream not used as a source of water supply would be ideal, affording a steep gradient for tipping, rapid decomposition during the dry months and a partial "flushing" system during the rainy season. This would cause no nuisance to the people of Freetown, would not breed the domestic rat; would render unnecessary the services of the disposal craft (estimated at £1,017 in 1931) would reduce the "sorting gang" by more than 50 per cent., showing a saving therefore of approximately £250 per annum on this item, i.e. a total saving on the disposal service of approximately £1,250, against which would have to be set the Railway charges which on a nominal flat rate charge should not exceed £250 per annum. If this scheme were adopted a saving of approximately £1,600 per annum (Collection £600; Disposal £1,000) could be effected on the scavenging scheme which in 1930 cost £3,400, i.e. a saving of nearly 50 per cent.

*Drainage.*—This is included under "Malaria."

*Other Sanitary Improvements.*—New type incinerators were erected at Waterloo, Makeni and Kailahun. Slaughter-houses were built at Moyamba, Blama, Daru, Pendembu, Segbwema and Pujehun. Drainage improvements were completed at Port Loko.

## III—WATER SUPPLIES.

A pipe-borne water supply was provided at the Protectorate Central College, Koyeima. The water flows by gravity through $2\frac{1}{2}$–inch mains from a dam on a hillside.

One 500 gallon galvanized iron water tank was erected at Bo Hospital, and water tanks were provided for the new bungalow for the Medical Officer at Bo. Two 500 gallon G.I. water tanks were erected at the Custom House, Bonthe, and tanks were erected at Sulima. An additional tank was provided for the Provincial Commissioner's quarters at Kenema.

Extensive repairs were effected to the concrete dam and reservoir at Wilberforce Barracks, the pressed steel storage tanks for the Hill Station water supply were repainted and the C.I. pipe line to the Public Works Department bungalows was relaid.

The Engineer of the Freetown Water Works reports as follows:—

> The total quantity of water consumed during the year was 161,036,000 gallons as compared with 168,561,000 the preceding year. 3,942,000 gallons were supplied to shipping, 4,882,000 gallons for trade and other non-domestic purposes and 152,121,000 for purely domestic purposes.
>
> The maximum daily consumption was 636,000 gallons on the 15th of February and the minimum 140,000 gallons on the 24th of April.
>
> Twenty-one Private Services were laid during the year. Deducting those that were disconnected from one cause or another, there were at the close of the year 440 private services with 850 taps. One new service was laid on to Colonial Government property. There are eighty-four Colonial Government Services.
>
> Only one new public standpost was erected during the year, that at Chapel Street.

The following new mains were laid during the year:—

(1) 517 yards of 8–inch and 7–inch leading mains with one fire hydrant, from the Service Reservoir at Tower Hill, along Fort Street to Circular Road. This has improved the distribution to the southern portions of the City.

(2) 248 yards of 4–inch main with two fire hydrants along lower Liverpool Street. This has improved the supply to the western end of Oxford Street.

(3) 415 yards of 3–inch and 4–inch mains with six fire hydrants along Fergusson and Dillet Streets. This has supplied a long felt need.

The portion of the $8\frac{1}{2}$–inch steel main from the Lumley Valley, which runs through Congo Town and which had shown signs of decay was thoroughly treated during the year. The main was unearthed, all corrosion on it thoroughly scraped off, all defective portions repaired or replaced as necessary and the whole treated with a double protective coating of Bitumastic Solution, followed by a coat of Bitumastic Enamel applied on. On the whole about 987 yards were thus treated and 135 yards replaced.

The shortage of water during this dry season lasted from the 10th of April to the 19th of May, during which period the town was put on a restricted supply. Pumping operations were carried on from the 14th March to the 20th of May.

## IV—SCHOOL HYGIENE.

The report of the School Medical Officer will be found in Appendix D. This year children up to the age of eight years and those of twelve years were examined and parents were invited to be present at the inspections, thus increasing their interest in the health of their children. Altogether 3,039 children were medically examined: 1,621 in Freetown, 1,050 in the Colony and 368 in the Protectorate.

The new School Clinic was opened on the 19th February. At the inspections, children requiring treatment were given a note to attend and the school nurse also visited the schools twice weekly and issued sick report notes for the clinic when necessary. In the Colony villages, 438 prescriptions were given out and arrangements made for dispensers to treat long-standing sores.

Careful attention was called to the state of the school buildings and surroundings and action taken to improve the latrine accommodation. Further details on the educational aspect of school hygiene will be found under Section B (*infra*).

## V—LABOUR CONDITIONS.

Practically all outward bound ships on the West African route call at Freetown to pick up deck hands to work the cargo at the various ports. During the year, 12,372 Kroomen earned their livelihood making these trips up and down the Coast. On discharge all were carefully examined by the Port Health Officer to prevent the entry of infectious disease.

Hitherto, with the exception of the labourers from the Protectorate employed by the Government and commercial firms, the shipping companies have been the chief source of employment of labour. This year, over 1,000 labourers were engaged in operations commenced by the Sierra Leone Development Company in connection with the iron ore deposits at Marampa. It was proposed to established labour camps at Sahr Marank and Pepel. Prior to their inception, a memorandum was drawn up by the Assistant Director of Health Service containing detailed recommendations and simple plans on the selection, lay-out and maintenance of camp sites. Similar advice was given for the lay-out and conduct of a labour camp on the Big Water platinum concession near York.

It is expected that the new Ordinance to provide a labour code for Sierra Leone will be passed next year. The proposed Ordinance contains clauses for the declaration of Labour Health Areas and the planning and lay-out of towns, villages and camps in such areas; provisions as to sites, water supplies, sanitary arrangements, malaria prevention; reasonable facilities for labourers to obtain food and fuel; medical attention and hospital accommodation.

## VI—HOUSING AND TOWN PLANNING.

This Colony did not share in the prosperity of the boom years to the same extent as the other West African Colonies and little progress can be recorded under this heading.

The housing conditions in the poorer districts of Freetown are very bad. The majority of the houses are small, packed close together, inadequately ventilated and roofed with thatch. In many, the main structure is dilapidated beyond repair and incapable of supporting a corrugated iron roof. Owing to the poverty prevailing in recent years it has not been possible to enforce the provisions of the Freetown Improvement Ordinance of 1926.

Next year, the Census statistics as to density of population will be available; then a true conception will be obtained of the degree of congestion and the amount of overcrowding in the congested areas. Meantime inspections are being carried out by this department with a view to the compilation of statistics on the construction, condition and rateable value of dwelling houses; size of compounds; number of houses per acre; and the number, description and size of the rooms in each house. By a comparison of these statistics with the morbidity and mortality rates in these areas, the relationship between overcrowding and such diseases as malaria, tuberculosis and the enteric group will be ascertained in future years.

This subject is now under the consideration of the City Council and it is hoped that the proposed Building Scheme, which is to provide funds for building operations on the lines of a building society will soon be in concrete form.

In Freetown, there are no large open spaces and the open spaces that exist are few and far between. Recently one such space became available as a result of the demolition of the old offices of the Medical and Sanitary Department in Water Street and the improvement noticed was remarkable. Adequate provision for open spaces should not be lost sight of in future building schemes to open up new districts.

## VII—FOOD IN RELATION TO HEALTH AND DISEASE.

In Freetwon, 2,050 bullocks and 313 sheep were slaughtered in the public slaughter-house, which has separate stall accommodation for six animals to be dealt with at the same time.

All animals were inspected before slaughter. Three cases of anthrax were discovered among cattle.

After slaughter, strict inspection of the meat is carried out. Powerful electric lights were installed at the slaughter-house to facilitate these operations, which take place at a very early hour.

During their training in Freetown, the Sanitary Inspectors receive careful instruction in meat inspection and each inspector in turn is posted to the slaughter-house for practical experience under a senior inspector. At out-stations in the Protectorate all animals selected for slaughter are examined by the Sanitary Inspector and the meat carefully inspected. Slaughter-houses were erected during the year at six of the more important towns in the Protectorate.

The City Council covered market at Regent Road was completed and the question of providing further market accommodation is under consideration. In the bigger markets more than half the stalls provided are often unoccupied and it is felt that no more markets should be built until street selling has been brought under control.

The hawking of food-stuffs is part of the old age custom of the African of selling his goods when and where he can. In Freetown, the growth of indiscriminate and uncontrolled street trading has assumed unwarrantable proportions, causing congestion and obstruction of thoroughfares with resulting accumulations of refuse blocking the drains in certain areas. Experience in other Colonies has shown that it is well-nigh impossible to enforce the abolition of street selling. A committee has therefore been formed to draw up bye-laws to bring it under control.

The very comprehensive report by Drs. J. Neil Leitch and Marion Watson on the investigation of the outbreak of beriberi which occurred in the Freetown Prison in 1929, was published this year. As a result of this report a new standard dietary was introduced at the prison and no cases of beriberi or other diet deficiency disease occurred during the year.

Dr. E. Jenner Wright's interesting monograph on the A and B Avitaminosis Disease of Sierra Leone was also published this year. In the Annual Report for 1926, the author sums up the dietary conditions in Sierra Leone as follows:—

> "The staple food of the people of this country is rice and cassava. There is no dairy produce available except the imported varieties."

The disease, which may be cured by the addition of cod liver oil and yeast to the diet, is described in considerable detail in the monograph. An account of its occurrence amongst the school children will be found in Appendix D.

## *B*—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

The second schedule of the Education Ordinance, 1929, made provision for the inclusion of hygiene and sanitation as compulsory subjects to be taught in all grades of the Government and assisted primary schools in the Colony. These rules also provided for the grants being conditional upon the school buildings reaching a satisfactory standard as regards construction, space accommodation, seating, lighting and ventilation and cleanliness; sufficient water supply, adequate latrine accommodation, and the sanitation of the surroundings, thus ensuring the practice as well as the teaching of hygiene in the schools.

The Education (Protectorate Rules passed in 1930) made these provisions, with minor modifications, applicable to the schools in the Protectorate.

Hygiene being compulsory in the schools, lectures and demonstrations in hygiene of a practical nature were given to the teachers at the vacation course in July by the Senior Health Officer and the Sanitary Superintendent and Training Officer. Next year, an examination will be held at the end of this course to ascertain to what extent those who are destined to teach this subject have benefited by the lectures.

Health Week was held in Freetown from 30th November to 6th December.

The following programme was arranged:—

(1) Sunday, November 29th was observed as Health Sunday and reference to health matters was made in most of the churches.

(2) Large numbers of posters and pamphlets were distributed throughout Freetown and the neighbouring villages. The subjects dealt with were:—Tuberculosis, Venereal Diseases, Rats and Plague, Malaria and Mosquito Extermination, and Child Welfare.

(3) During Health Week demonstrations were given to school teachers daily on infectious diseases, disinfection, refuse disposal, water supplies and dangerous insects. The Public Health Engineer conducted a party of teachers over the area being canalized and drained in the vicinity of Sanders Brook.

(4) A school essay competition was held and thirty schools, urban and rural, competed. Twelve prizes were awarded and, generally speaking, the essays were good.

(5) The Baby Competition was the principal event of the week and proved more popular than ever. Preliminary judging was carried on throughout the week and, out of approximately 600 entrants, 120 children were selected for the final judging which took place at the Victoria Park on Saturday, 6th December. The Governor's Deputy and Mrs. Goddard attended and distributed prizes to the value of thirty-four pounds.

## *C*—TRAINING OF SANITARY PERSONNEL.

The training of Sanitary Learners and Inspectors by means of lectures, demonstrations and individual tuition has been continued throughout the year.

Two general classes were held weekly, one for Sanitary Learners and one for Fifth Grade Inspectors, and the syllabus has been based on paragraphs 7 and 11 of the Regulations for African Sanitary Inspectors. Mr. W. E. Corkson, Third Grade Sanitary Inspector was given individual instruction while preparing for the examination of the Royal Sanitary Institute at Lagos.

A course consists of approximately twenty lectures, and usually learners are not examined until they have attained two courses.

Four examinations were held during the year, two being for Sanitary Learners and two for Fifth Grade Sanitary Inspectors. As a result of the examinations, four Sanitary Learners were promoted to Fifth Grade and four Fifth Grade Sanitary Inspectors to Fourth Grade.

In November, six Fifth Grade Sanitary Inspectors working in the Protectorate were replaced by Sanitary Inspectors from Freetown and are at present attending a course of lectures in preparation for a promotion examination to be held next year.

The comparatively low standard of general education of the older inspectors makes teaching extremely difficult and makes it almost impossible for the men themselves to put on paper what they have learned. For this reason there are men who from an examination point of view can go no further, but are among the most practical, consciencious and hard-working Inspectors on the staff.

Among the Junior Fifth Grade Inspectors and Sanitary Learners are some very good and outstanding young men who in time will do much towards raising the status and prestige of the Sanitary Inspector in Sierra Leone.

### *D*—RECOMMENDATIONS FOR FUTURE WORK.

(1) The suggested scheme of improvements in the matter of refuse collection and disposal will be given a trial next year.

(2) The introduction of the pail system of collecting nightsoil for disposal into the sea, after suitable preliminary treatment.

(3) The provision of adequate water storage to supplement the very small supply available in Freetown during the shortage which occurs every year before the advent of the rainy season. This year, the shortage lasted for a period of six weeks and on one day the supply was as low as 140,000 gallons, i.e. less than three gallons per head per diem. This necessitated the water being turned off for several hours each day to prevent wastage and enable the water in the service reservoir, which has a capacity of two days supply, to reach a level high enough to maintain working pressure at the standpipes: with the consequent disadvantages of an intermittent supply.

During the dry season next year, the area in the vicinity of Charlotte Falls will be explored with a view to submitting recommendations on the possibilities of an impounding reservior with a capacity of at least three months' supply, failing which, one or more experimental deep wells may be sunk at the base of the hills surrounding Freetown.

(4) There is good reason to believe that the use of quinine would be increased to a great extent in this community if the drug were made available at cost price and in the small quantities necessary for treating a single attack of malaria.

A scheme is now being arranged to put this into effect in the city markets.

## V—Port Health Work and Administration.

The new Quarantine Rules, embracing the local procedure provided by the articles of the International Sanitary Convention of 1926, came into force.

Two thousand ships arrived at Freetown during the year: 411 from the North, 407 from the South and 182 from Sherbro. 1,559 cabin and 1,651 deck passengers landed at Freetown. Owing to the presence of plague and smallpox at ports to the northward and southward of Sierra Leone, the Medical Officer of Health boarded all ships with the exception of the outward-bound mail boats of the Elder Dempster Line. 31,413 Kroo boys were carefully examined. Passengers from infected ports were kept under surveillance and all baggage was passed through the port disinfecting station which is equipped with a Washington Lyon high-pressure steam disinfector.

On 21st January, the S.S. " Salaga " arrived from the south with a Kroo suffering from severe smallpox. The case was removed to the Infectious Diseases Hospital at Kissy; eighty-four contacts were placed in quarantine at the Cape Station for fourteen days; all persons on board were vaccinated and the ship was disinfected. No further cases occurred in Freetown or on the ship.

On 3rd December, the S.S. " Salina " arrived from the south with a doubtful case of smallpox in a Kroo boy. The same action was taken as in the case of the S.S. " Salaga."

Owing to the highly insanitary conditions prevailing in Liberia, the port of Monrovia was regarded as infected with yellow fever throughout the whole year and ships arriving from that port were subjected to thorough examination.

Freetown was never in quarantine during the year.

## VI—Maternity and Child Welfare.

As stated earlier in this report, registration of births was not adequately enforced throughout the year, hence the infant mortality rate appears higher than it really is, and a comparison of the number of deaths in children under one year with the crude death-rate is of more value as a guide to the conditions obtaining in early life.

Of the total deaths recorded, no less than 36·8 per cent. occurred in children under five years and 27·3 per cent. in children under twelve months.

53·9 per cent. of the deaths under twelve months occurred during the first month and of these 62 per cent. took place during the first seven days of life.

The predisposing factors in infant mortality have been described by Dr. Wright as follows:—

> "Keeping mother and child in darkened room for first week after birth: sleeping with child; use of contaminated instruments to sever navel string and early application of freshly gathered roots and plants to the umbilicus; "fugging" during lying-in-period."
>
> "Inhibition of copious draughts of native medicines of uncertain strength."
>
> "Carrying child on back at too early an age, i.e. when a few weeks old; forced feeding, sometimes called "laying the child"—nose may be held with fingers whilst child is thus forced to swallow pap, etc., placed in its mouth—or else a handful of pap is placed against the nose and mouth and held there until such times as the child must breath air and pap as well—I feel confident this method of feeding causes infantile deaths if not sometimes directly by suffocation sometimes indirectly by inspirational pneumonia."
>
> "Prophylactic administration of "Agbo" (decoction of herbs of uncertain strength). Exhibition too early of twins for gain—among the aborigines—(especially Limbas)."

The chief diseases responsible for deaths under one year were:—

| | | |
|---|---|---|
| Respiratory diseases ... ... | 27·5 | per cent. |
| Malaria ... ... ... | 20·75 | ,, |
| Enteritis ... ... ... | 5·7 | ,, |
| Tetanus neonatorum ... ... | 4·9 | ,, |

The large incidence of respiratory disease is due to the fact that insufficient attention is paid to sudden changes in climate, clothing is costly and the people are ignorant of what to wear.

From this brief review of the conditions prevailing it is apparent that there is a serious need in this community for instruction in the subjects of Maternity and Child Welfare.

Great credit must be given to Mrs. Blackmore for the zeal with which she has taken up this work: throughout the whole year lectures and demonstrations of from two to three hours duration were given by her twice weekly to the senior girls in St. Joseph's Convent.

Maternity and child welfare work was well maintained throughout the year. Reports from the Medical Officers in charge will be found in Appendix E.

There were 260 labour cases in the Maternity Ward of the Connaught Hospital and 148 at the Princess Christian Mission Hospital, a total of 408 for the year compared with 328 last year, and equivalent to 37 per cent. of all the births registered in Freetown. The work of the health visitors was much appreciated as is shown by the number of external cases receiving attention.

Ante-natal clinics were again held at the Princess Christian Mission Hospital and the Campbell Street Infant Welfare Centre. The attendances at the former were 2,159—a marked increase over last year, at the latter 1,621.

The three Infant Clinics continued to do excellent work and again the attendances showed an increase.

The post of Senior Health Visitor is being held open for Miss Metzger who proceeded to England early in the year to undergo a course of training in child welfare and in midwifery for the examination of the Central Midwives Board.

A. B. MONKS,
*Acting Assistant Director, Health Service.*

## VII—Hospitals, Dispensaries and Venereal Clinics.

### CONNAUGHT HOSPITAL.

No new additions were made to the Connaught Hospital during the year. The wards were at most times filled to capacity the number of admissions being 2,383 as against 2,228 in 1929.

The number of operations performed, viz., 1,566 shows a big increase over 1929. A report by the Surgical Specialist is given in Appendix A.

Maternity cases show a small increase. The figures being 363 as against 353 in 1929.

Under the care of Dr. Jennings, the electrical department of the hospital continues to be of increasing usefulness.

The following table shows the figures of in-patients and maternity cases admitted to the Connaught Hospital during the past ten years; it is gratifying to note the steady increase of patients who come for institutional treatment.

| Year. | Total In-patients. | Maternity In-patients. | Remarks. |
|---|---|---|---|
| 1921 | 737 | 142 | New hospital opened—four wards in January including maternity ward of eleven beds. Two more wards in August. |
| 1922 | 1,282 | 169 | |
| 1923 | 1,557 | 200 | |
| 1924 | 1,862 | 263 | |
| 1925 | 1,860 | 214 | |
| 1926 | 1,867 | 251 | |
| 1927 | 2,046 | 301 | |
| 1928 | 1,945 | 311 | |
| 1929 | 2,228 | 353 | |
| 1930 | 2,383 | 363 | New Surgical block, two wards of fourteen beds and four cubicles. |

The number of out-patients at the Connaught Hospital is slightly increased for the year, but there was a decided following off in the number of subsequent attendances. The following table gives the comparative figures:—

For Venereal Diseases Clinic Report—*see* Appendix G.

Out-patients at the Connaught Hospital during the last ten years :—

| —— | 1921. | 1922. | 1923. | 1924. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. |
|---|---|---|---|---|---|---|---|---|---|---|
| New cases | 5,654 | 10,573 | 11,335 | 10,955 | 14,106 | 13,834 | 14,780 | 13,864 | 14,265 | 14,276 |
| Subsequent attendances | 16,209 | 10,443 | 36,985 | 38,475 | 22,335 | 32,176 | 34,780 | 47,040 | 59,441 | 41,722 |
| Total ... | 21,863 | 21,016 | 48,320 | 49,430 | 36,441 | 46,010 | 49,560 | 60,904 | 73,706 | 55,998 |

## European Hospital.

During the year, forty-six officials and seventy-five non-officials were treated at the European Hospital. These figures are below those of 1929. There were five deaths due to the following causes:—

| | |
|---|---|
| Pneumonia ... ... ... | 1 |
| Malaria ... ... ... ... | 1 |
| Cerebral Tumour ... ... ... | 1 |
| Blackwater fever ... ... ... | 1 |
| Tuberculosis ... ... ... ... | 1 |

| | Admissions. | Deaths. |
|---|---|---|
| Government officials ... ... ... | 46 | — |
| Non-officials ... ... ... | 75 | 5 |
| Total ... ... ... | 121 | 5 |

## Hospitals and Dispensaries.

These were continued throughout the year. No new additions were made in the Protectorate. The subsidized missions, three in number situated at Kamabai, Jaiama and Segbwema continued to do good work and received their full subsidy from Government. A new Government Dispensary of mordern type and construction was opened at Kissy and is proving very popular. It is under the charge of Dr. Easmon who also controls the Kissy Mental Asylum, the Kissy Male and Female Infirmaries.

In the near future, extension of the Infirmary will be required, preferably in the form of alms houses or homes for incurables.

The following table gives the figures of total cases treated in the Colony and Protectorate during the past ten years:—

| —— | 1921. | 1922. | 1923. | 1924. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. |
|---|---|---|---|---|---|---|---|---|---|---|
| Patients | 48,270 | 51,689 | 50,260 | 53,270 | 64,752 | 67,975 | 81,135 | 87,641 | 102,531 | 100,255 |

## VIII—Meteorology.

The rainfall for the year at Freetown (Tower Hill)—114·5 inches—was well below the forty years average for the period 1882–1921, which was 152·47 inches. July was the month of heaviest rainfall with a total of 29·43 inches. The maximum in one day was 12·25 inches on the 15th July.

Hill Station, the residential area situated on a ridge immediately to the west of Freetown, always has a heavier rainfall than Tower Hill. The total for the year was 148·70 inches, July with 41·88 inches being the month of heaviest rainfall. The maximum precipitation on one day was 11·66 inches on the 15th of July.

Records of temperature, humidity and rainfall at various stations in the Colony and Protectorate will be found in Table III.

## IX—Scientific.

### A—Connaught Hospital Laboratory Report.

The first part of the year the laboratory was in charge of Dr. J. N. Leitch, the pathologist. He handed over in July to Dr. E. S. Walls who carried on till December when I took charge.

During the year 10,238 specimens were received for examination.

| | European. | African. |
|---|---|---|
| (1) *Blood Films.* | —— | —— |
| Total examined ... ... ... | 199 | 1,466 |
| Plasmodium falciparum ... ... | 56 | 283 |
| Plasmodium vivax ... ... ... | — | — |
| Plasmodium malariæ ... ... ... | — | 2 |
| Trypanosoma gambiense ... ... | — | 3 |
| Microfilaria bancrofti ... ... ... | — | 2 |
| (2) *Blood Count.* | | |
| Red count ... ... ... ... | 9 | 27 |
| Defferential count ... ... ... | 45 | 32 |

(3) Bacillus anthracis was found in the 3 films of cows' blood submitted

| | European. | African. |
|---|---|---|
| (4) *Fæces.* | | |
| Total examined ... ... ... | 104 | 1,196 |
| Ankylostoma ova ... ... ... | — | 285 |
| Ascaris ova ... ... ... ... | — | 182 |
| Tæniidæ ova ... ... ... | — | 22 |
| Trichuris ova ... ... ... | 5 | 115 |
| Oxyuris ova ... ... ... | — | 5 |
| Strongyloides larvæ ... ... ... | — | 142 |
| Tricho strongylus colubriformis or strongylus subtilis—E.S.W. ... | — | 3 |
| Entamœba histolytica ... ... ... | 11 | 52 |
| Entomœba coli ... ... ... | — | 2 |
| Giardia ... ... ... ... | 1 | 1 |
| B. medinensis ... ... ... | — | 1 |
| S. mansoni ova ... ... ... | — | 3 |
| Balantidium coli ... ... ... | — | 2 |
| Dicrocoelium dendriticum ova ... ... | — | 16 |

*Dicrococlium dendriticum (B. lanceatum)*:—

> "Sixteen cases of this infection were found among the prisoners in the gaol. It would, however, appear to be not a true infection, but infected liver (probably of sheep) having been eaten rather undercooked, the ova were merely passed through the intestine unchanged. I have found the same infection in a European in December or January, 1929; he had dysenteric symptoms. The ovum was identified by Professor R. M. Gordon of the Sir Alfred Lewis Jones Laboratory. There was no mention of this ovum in the Annual Report from 1918 onwards.—E.S.W."

Dr. E. S. Walls also furnishes notes on two cases of S. mansoni which might be of interest. Both were prisoners in the Freetown gaol.

(*a*) SANTIGGI—5th August, 1930. Timne tribe, came from Kpendembu, Port Loko District. Never lived outside Sierra Leone and has only been in Moyamba, Njala, Pujehun and Bonthe outside Kpendembu, and only spent a few days at each of these places. Had never noticed any symptoms.

(*b*) M'CAULEY—408/29. Born at Sengeh, Batkanu District, 35 years old. Occupation cook. Left Sengeh about ten years ago and went to Bonthe, where he stayed four years, suffering from frequent attacks of diarrhœa, with blood. Got well while under treatment of a native herbalist.

One open culated ovum was found in the stool of a prisoner in Freetown gaol which was unidentified. Size about half ankylostome ovum, colour yellowish, outer shell brownish.

(5) Eight hundred and fifty-one specimens of urine were examined, of which 14 were for urea and 24 for albumen estimation, respectively.

(6) *Sputa*.—Total examined 178.
Tubercle bacilli present in 32.

(7) Smears from suspected cases of venereal diseases 143; Gonococci present in 72; Spirochæta pallida in 4.

(8) Smears from suspected cases of leprosy—241; Bacilli lepræ present in 63.

(9) Kahn test for syphilis—ten out of twenty were positive.

(10) Agglutination Tests—6:
Positive to B. typhosus 2
,, ,, B. paratyphosus A. 2
,, ,, B. paratyphosus B. 2.

(11) 2,900 smears from rats were examined and no evidence of plague infection were found.

(12) Thirty-four post mortem examinations were performed.

(*a*) *Accidental deaths*:

| | |
|---|---|
| Shock from fracture of base of skull ... ... ... ... | 1 |
| Shock from fracture of ribs ... ... ... ... ... | 1 |
| Shock from multiple injuries ... ... ... ... ... | 1 |
| Poisoning (nature of poison undetermined) ... ... ... | 1 |

(*b*) *Death from disease*:

| | |
|---|---|
| Lobar pneumonia ... ... ... ... ... ... | 1 |
| Carcinoma of stomach ... ... ... ... ... ... | 1 |
| Meningitis ... ... ... ... ... ... ... | 2 |
| Chronic nephritis ... ... ... ... ... ... | 2 |
| Strangulated hernia ... ... ... ... ... ... | 2 |
| Chronic tuberculosis ... ... ... ... ... ... | 1 |
| Acute nephritis ... ... ... ... ... ... | 2 |
| Beriberi ... ... ... ... ... ... ... | 1 |
| Aneurism ... ... ... ... ... ... ... | 2 |
| Pleurisy ... ... ... ... ... ... ... | 1 |
| Tuberculous kidneys ... ... ... ... ... ... | 1 |
| Heart failure ... ... ... ... ... ... ... | 1 |
| Toxæmia from tape worm ... ... ... ... ... | 1 |
| Toxæmia due to ethmoidal sinusitis ... ... ... ... | 1 |
| Toxæmia due to ulcers ... ... ... ... ... ... | 1 |
| Tuberculous glands ... ... ... ... ... ... | 1 |
| Cerebral hæmorrhage ... ... ... ... ... ... | 1 |
| Valvular disease of the heart ... ... ... ... ... | 1 |

(*b*) *Death from disease :—continued.*

| | |
|---|---|
| Oedema of lungs | 1 |
| Myocardial degeneration | 1 |
| Cerebral tumour | 1 |
| Pulmonary tuberculosis | 2 |
| Tubercular peritonitis | 1 |
| Intestinal obstruction | 1 |

E. A. RENNER,
*Medical Officer in charge of Laboratory,*
*Connaught Hospital.*

## *B*—NOTES ON SURGICAL CASES.

BY

Q. STEWART, F.R.C.S., (Edin.),
*Surgical Specialist.*

### 1.—A Retro-peritoneal Cyst.

A Mendi farmer, sixty years of age, came complaining of a swelling in the abdomen of six months duration; for the last few weeks he had also suffered from frequency of micturition.

There was a trace of albumen in the urine.

On examination a large rounded tumour was felt filling the abdomen on the right side from the inguinal ligament to the rib margin; it was slightly tender, dull on percussion and a fluid thrill was present.

At the operation, carried out under spinal anæsthesia, a large retro-peritoneal cyst was removed. Many adhesions to bowel required to be freed. The right ureter was in close relation to the cyst, it was markedly adherent to the under surface and had become kinked and obstructed, showing pronounced dilatation proximally leading to a greatly dilated kidney pelvis.

The cyst contained yellowish fluid and what looked like organizing blood clot.

The patient was discharged fit.

### 2.—Subdural Abscess.

A man aged about thirty was found unconscious in the street by the police and brought to hospital. On going into the case, one found that the patient was not actually unconscious, he could be roused, on questioning him however he did not reply sensibly but said a few words which had no bearing on the question and relapsed into drowsiness again.

A swelling was present on the left side of the head over the parietal region, it was softish but not fluctuating, handling it gave rise to signs of resentment.

The left pupil was slightly dilated and the right knee jerk markedly increased.

Under chloroform, the swelling was incised. Pus and granulation tissue being removed, bare bone was disclosed. On trephining this pus was found on the surface of the dura, spreading over a large area between bone and dura. A considerable amount of bone was nibbled away to ensure drainage. The patient's condition improved somewhat after this but the improvement was not sustained, and a small swelling appeared on the forehead above the right eyebrow; so six days after the first operation this new swelling was investigated and found to be an abscess overlying bare bone; this was trephined and the bulging dura opened but no pus was discovered.

The former wound was now re-opened and a considerable amount of unhealthy tissue removed. When this had been done sloughing brain matter was seen to be protruding from the exposed brain; this slough was excised and a needle put into the lateral ventricle evacuated cerebro-spinal fluid under considerable pressure.

Despite the severity and extent of the brain involvement the man improved rapidly and before he left hospital a month after his first operation his wound had practically healed and there appeared to be little if any impairment in his mental condition.

### 3—Ectopic Kidney.

A Kroo woman aged thirty was admitted with a history of five years pain in the abdomen and irregular menstruation. These symptoms had arisen following on the birth of her last child. She had had six children of whom only one was still alive.

Albumen was present in the urine.

A tender elongated swelling could be felt suprapubically, bimanually it appeared to be connected with the right border of the uterine fundus. A diagnosis of tumour or cyst of the right appendages was made.

At operation the swelling was found to be an ectopic kidney; it was rather smaller than normal and its lower pole extended just into the broad ligament. It appeared healthy but was misshaped and as it could not have been returned to its proper situation on account of the shortness of the ureter it was excised—an apparently normal kidney being palpated on the left side.

The symptoms had disappeared on discharge of the patient.

### 4.—Bone Graft for Ununited Fracture Humerus.

A woman of sixty-two years of age requested treatment for her arm broken seven months ago and remaining unhealed and useless.

There was an ununited fracture about 3 inches above the condyles of the left humerus, the bone ends being freely movable and not even any fibrous union present.

Under chloroform, the bone ends were exposed and reamed out to receive a graft cut from the antero-internal surface of the tibia with a drill and osteotome (no electrical saw being available). One end of the graft which retained its periosteum was knocked firmly into the distal portion of the humerus while the other was inserted into the proximal portion split to receive it; one half of the split portion fractured, unfortunately, but this junction was firmly bound with silver wire and never gave trouble.

The arm was immobilised in abduction by means of plaster over a Jones' abduction splint, for a period of three months.

Union was firm and a strong arm with full movement eventually resulted.

### 5.—A Foreign Body in the Appendix.

A school boy nine years of age was admitted complaining of a painful swelling in the abdomen of two months' duration.

On examination a hard tender lump was felt just to the right of the umbilicus; it was about 1½ inches in diameter and apparently in the abdominal wall.

At the operation, the tumour was found to be a small resolving abscess situated between the peritoneum and the rectus muscle.

Adherent to the internal aspect of the peritoneum and really forming part of the tumour mass was the curled up distal half of the appendix.

The tumour and appendix were removed *en bloc*. On slitting up the appendix a large sized ordinary pin was found in the distal portion with the pin head against the terminal portion of the mucous membrane; the pin was surrounded by muco pus and evidence of inflammation was present in the mucous membrane.

Recovery was uneventful.

### 6.—Deformity of Hand resulting from Malignant Ulcer.

A Timni man aged forty-eight years arrived at the out-patient department desiring treatment for a curiously deformed right hand.

He gave a history of recurring swellings which burst on the back of the hand over a period of ten years. Between these eruptions the hand healed, but four years ago it burst and remained as an ulcer which gradually extended. His fingers started to swell on the appearance of the ulcer and have gradually increased in size since.

On examination there was a very marked spindle shaped swelling of all the fingers and a thickening and broadening of the palm; the wrist was fixed in a flexed position and there was present, extending over the entire dorsal aspect of the hand and wrist, a large ulcer the edges of which were raised and hard. A radiograph showed marked osteoporosis of the bones.

Amputation was done. Owing to the poor nutrition of the skin distal to this level, it was necessary to go above the elbow joint.

The pathological report kindly furnished by Mr. D. M. Greig, F.R.C.S.E., Conservator of the Royal College of Surgeon's Museum, Edinburgh was " Squamous celled Carcinoma." The extraordinary spindle shaped swelling of the fingers had apparently been caused through interference with lymphatic drainage by the long continued inflammatory change associated with the lesion on the back of the hand where the main lymphatic channels from the fingers are concentrated.

## *C*—NOTES ON A SURVEY OF LEPROSY IN SIERRA LEONE.

BY

M. C. F. EASMON, M.D.

*Historical.*—One of the earliest medical accounts of Sierra Leone is that of T. M. Winterbottom, M.D. (Glas.) one of the first physicians of the Colony 1792–1796 in the early days of the Chartered Company. In 1796, he published an " Account of the Native Africans in the neighbourhood of Sierra Leone " to which is added " An Account of the Present State of Medicine among them." The work is in two volumes the second being entirely medical. The area he covers would roughly correspond to the present Colony and Protectorate. He makes no mention of leprosy, though other tropical diseases as yaws, elephantiasis, dracunculus, craw craw, smallpox are noticed. At this period in the Colony proper the Colonists were the Nova Scotians (Slaves from the American Colonies who had fought on the English side during the War of Independence and afterwards taken to Nova Scotia and settled there) brought over by Captain Clarkson, R.N.

In the year 1843, Robert Clarke, M.R.C.S., (EDIN.), Senior Assistant Colonial Surgeon, Sierra Leone, wrote " A Description of the Manners and Customs of the Liberated Africans." By this time, Sierra Leone had become a Crown Colony but still without the present Protectorate. The inhabitants of the Colony consisted of Liberated Africans, Nova Scotian settlers and Maroons from the West Indies.

Freetown was now the centre for the liberation of slaves rescued from the slave ships caught by vessels of the British Navy patrolling the West African coast. On capture, the slave ship was brought into Freetown harbour and the slaves landed; the sick were at once taken to the Kissy Hospitals.

Dr. Clarke gives a full account of the Kissy Hospitals and mentions Lepra giving a short account of the disease and stating that it is hereditary. He also gives the annual returns for Kissy Hospitals for the year 1841 and the following are the figures for Lepra:—

| | |
|---|---|
| Remaining in Hospital December 31st, 1840 ... ... | 5 |
| Admitted ... ... ... ... ... ... | 9 |
| Total treated ... ... ... ... ... ... | 34 |
| Recovered ... ... ... ... ... ... | 25 |
| Died ... ... ... ... ... ... | 7 |
| Remaining in hospital December 31st, 1841 ... ... | 2 |

One notes the very high percentage of cures and the number of deaths.

In 1864, Surgeon Major J. A. B. Horton, A.M.S., attached to the West Indian Regiment wrote a medical work on West Africa and therein gives the annual returns for Kissy Hospitals for a period of four years. The figures for Lepra are:—

| | 1845–6. | 1846–7. | 1847–8. | 1849–50. |
|---|---|---|---|---|
| Remaining in hospital | 6 | 11 | 15 | 3 |
| Admitted ... ... | 22 | 15 | 21 | 6 |
| Total treated ... | 28 | 26 | 36 | 9 |
| Recovered ... ... | 10 | 8 | 14 | 4 |
| Died ... ... | 7 | 3 | 13 | 2 |
| Remaining in hospital | 11 | 15 | 9 | 3 |

These figures are very similar to those of Dr. Clarke.

In 1896, the Protectorate was added to the Colony and in 1898–1899 came the Bai Bureh War. After this the country settled down and medical stations were opened up all over the Protectorate. In 1907 the Annual Medical Report gives seventeen cases treated as out-patients and seven as in-patients.

In-patients still at Kissy: up to 1908 male and female lepers were admitted into Kissy, but since 1910 there has been no accommodation for female cases only male cases being admitted.

In 1916 the Returns give twenty-nine, Kissy thirteen.

In 1922, rest of the Colony eight, Kissy nil.

From 1913 to 1920 the totals of each disease treated at each station were given in the Annual Report of the Medical Department. During these years a few cases were returned from fifteen different places in the Protectorate. This is in addition to that returned from Freetown Hospital, Freetown gaol and Kissy Hospital.

These figures show that very few lepers comparatively were being treated. As long ago as 1914 Dr. T. E. Rice in his Annual Medical Report observes. " It is possible that a serious attempt at the segregation of lepers on a wider scale than is at present attempted would disclose a much wider distribution of the disease than is apparently suspected in Sierra Leone."

*Present position.*—The treatment of leprosy within on modern lines was started in 1922 by Dr. Cummings at Kissy and since then a greater number of lepers have come to light coming up voluntarily for the new treatment.

In 1926 43 cases were returned: 15 at Kissy Infirmary in and out-patients.

In 1927 80 cases were returned: 12 at Kissy Infirmary in and out-patients.

In 1928 129 cases were returned: 42 at Kissy Infirmary in and out-patients.

In 1929 figures not yet to hand. 129 at Kissy Infirmary in and out-patients.

In 1930 figures not yet to hand. 132 at Kissy Infirmary in and out-patients.

Since 1928 the accommodation at the Leper Ward has been filled to capacity, twelve to thirteen, and at the end of 1930 an extra ward of the temporary bush house type was erected near the old wooden ward.

Professor Blacklock has in 1927 to 1929 made tours in the Protectorate to make a survey of diseases prevalent there. In the Northern Province, he saw 183 cases and had reports of eleven. In the Central and Southern Provinces, he saw sixty and had reports of twelve probable cases. In concluding his report he states—" Although it would be premature to endeavour to assess the total amount of leprosy existing, it is clear that the number of lepers must be very large. On Saturdays among the beggers of Freetown a good many cases of deformity due to old leprosy are to be seen: these cases never report for treatment."

The infection is present in the Colony proper. I have had under treatment in 1930 cases who had never left Freetown, Aberdeen, Allen Town and Russell, all places in the Colony.

*Types of Cases.*—The remarks in this section refer to Kissy Infirmary only. The in-patients are all males; among the out-patients the sexes are equally divided more or less. Among the in-patients, at present thirteen, are two typical nodular cases fit to illustrate any text book. There are three others (two youths and one young adult) with early nodules. The others are skin and nerve cases. Perforating ulcers of the sole of the foot cause great incapacity when acute and infected secondarily. At present there are none of the grossly disfigured and mutilated cases. Among the out-patients the cases are nearly all anæsthetic and skin cases with the characteristic reddish brown coloured patches.

A good many of the cases though well marked clinically and of only two to three years duration are bacteriologically negative. All out-patients at their first visit have the nasal secretion and snippings of skin examined.

In the 1928 report for Kissy the following classification was made according to Muir's scheme in a series of twenty-eight patients.

| Type. | Number. | Percentage. |
|---|---|---|
| A1 | 10 | 35·7 |
| A2 | 15 | 53·5 |
| B1 | 3 | 10·7 |

In 1929 and 1930 regular bacteriological examinations were made on all in and out-patients at the commencement of treatment.

| —— | Number Examined. | Number Positive. | Nasal Smear Positive. | Skin Positive. | Both Positive. |
|---|---|---|---|---|---|
| 1929 ... ... | 117 | 27 | 11 | 9 | 7 |
| 1930 ... ... | 89 | 21 | 2 | 8 | 11 |

*Treatment, Segregation:*—Leprosy though well known and recognized, each tribe in the Protectorate having a definite name for the disease, is not regarded with the loathing and abhorrence it meets with elsewhere. The leper is by no means an outcast. Professor

Blacklock sums up the whole position when he states—" One frequently saw lepers in the villages eating and drinking out of the same vessels as others living in the same houses and the children playing with them. The natives of these parts do not consider that leprosy is an infectious disease but they hold that it is a disease which runs in families and is hereditary to some extent."

Leprosy under section 43 paragraph 7 of the Public Health Ordinance, is a notifiable disease and under section 53 the Sanitary Authority has power to remove to and detain a case in a suitable place. From the earliest times leprous cases have been received into the Kissy Hospitals and since 1910 males only in a ward set apart in the Male Infirmary. There is however no means available to force them to stay in, and the few cases sent in by the Sanitary Authority go away whenever it pleases them. As long ago as 1914 Dr. T. E. Rice then Principal Medical Officer reviewed the whole question of leprosy and among his conclusions stated, " In Sierra Leone we have a ward in the Male Incurable Hospital at Kissy, which is called a Leper Asylum and as far as the Colony is concerned the segregation of lepers is compulsory, but in actual practice this is not so as the lepers almost invariably escape from the Institution."

At the present time the accommodation at Kissy for males only has been increased by the erection of a native house to hold twelve, alongside the old wooden leper ward. Legislation is afoot also to deal with this aspect of the problem.

Dr. Cummings at Kissy Male Infirmary was the first to use systematically the modern chaulmoogra oil derivates as introduced by Leonard Rogers and extended by Muir and others. Prior to this, pure chaulmoogra oil had been given orally when it could be taken and symptoms treated as they occurred. Dr. Cummings treated two cases bacteriologically positive with Moogrol, starting with 1 cc intramuscularly weekly and increasing the dose.

Dr. Metzger (1923) continued the treatment the following year and reported progress especially in the nodular cases.

About this time (1923) Dr. J. Y. Wood at the Prisons treated two advanced anaesthetic cases with the following mixture:—

| | | | |
|---|---|---|---|
| Ol chaulmoogra | ... | ... | 750 parts |
| Chloroform | ... | ... | 250 ,, |
| Acid Carbolic | ... | ... | 10 ,, |

five minims increasing to twenty minims intravenously six days a week.

He reported considerable improvement after 124 injections in each case. In 1926 the cases at Kissy who in the previous years had had course of Moogrol and Garlic Seed oil were now treated with Dr. Wood's mixture. In 1928, Alepol was started and this has been used since; in 1929, a return was made to Dr. Wood's mixture, and in 1930, intravenous Alepol was used extensively at first in 1 per cent. solution and then in 2 per cent., up to 6 cc twice a week of the 2 per cent. solution are being given to all in-patients with suitable veins.

In 1929 trichloracetic acid was used to paint the nodules and macula and aneasthetic areas. Applications are made every ten days. The nodules seem to disappear more rapidly than reddish colour of the areas regains its normal colour.

*Results of Treatment.*—The results of systematic and regular treatment, making periodic changes between Moogrol, Alepol and Dr. Wood's chaulmoogra oil emulsion, is not very encouraging. No case that was bacteriologically positive has become negative, the most is that a few are less negative. Lesion nodules have gone from one part while new lesions have occurred at others.

The general physical well being has improved and they have put on weight and, in the case of the youths, growth and muscular development have gone on normally. Two cases that in 1928 were doubtful are now definitely leprous—both young lads, one a typical early nodular case (Muir's B1) and the other a macular type (Muir's A1).

1. *Conclusions.*—In Sierra Leone, Colony and Protectorate there exists a larger amount of leprosy than is realized or returned in the Annual Medical Report.

2. So far treatment at Kissy with the newer treatments, derivatives of the fatty acids of the chaulmoogra oils, has not resulted in the rapid alleviation of symptoms and cure which we were led to expect.

# Tables.

## I—STAFF.

### MEDICAL STAFF.

| Office. | Name. | Absent on Leave. | | Remarks. |
|---|---|---|---|---|
| | | From | To | |
| Director of Medical and Sanitary Services ... | J. C. S. McDonall ... | — | — | |
| Surgical Specialist ... | Q. Stewart ... | 27 7 30 | 21 8 30 | Local leave. |
| Senior Medical Officer | G. H. Gallagher ... | 1 6 30 | — | |
| " " ... | A. C. Paterson ... | — | — | Transferred to the Gold Coast, 28-11-30. |
| " " ... | B. W. F. Wood ... | — | — | |
| Pathologist ... ... | J. N. Leitch ... | 27 7 30 | — | Transferred to Nigeria. |
| Medical Officer ... | J. D. Dimock ... | 13 4 30 | — | Invalided 22-5-30. |
| " ... ... | E. S. Walls ... ... | 12 1 30 | 12 6 30 | |
| " ... ... | J. W. Hartley ... | — | — | Retired on ill health, 18-4-30. |
| " ... ... | A. W. Lewis ... | 6 4 30 | 2 10 30 | |
| " ... ... | C. B. Jennings ... | 23 2 30<br>5 10 30 | 14 3 30<br>— | Local leave. |
| " ... ... | F. V. Hill ... ... | 6 4 30 | — | Services terminated 16-9-30. |
| " ... ... | G. L. Alexander ... | 7 9 30 | 2 10 30 | Local leave. |
| " ... ... | H. J. Bermingham ... | 14 12 30 | — | |
| " ... ... | D. D. Barker ... | 19 10 30 | — | Resigned 8-12-30. |
| " ... ... | W. Allan ... ... | — | 27 3 30 | |
| " ... ... | R. B. Henderson ... | — | — | |
| " ... ... | H. R. F. Tweedy ... | — | — | |
| " ... ... | H. Peaston ... | — | — | Appointed M.O.W.A.M.S., 1-1-30. |
| " ... ... | A. Cathcart ... | — | — | Appointed M.O.W.A.M.S., 6-8-30. |
| Lady Medical Officer | M. McDowall ... | — | — | Appointed L.M.O.W.A.M.S., 29-1-30., *vice* M. Blacklock. |
| African Medical Officer | E. J. Wright ... | 6 4 30 | 25 12 30 | |
| " ... ... | M. C. F. Easmon ... | — | — | |
| " ... ... | E. H. T. Cummings | — | — | |
| " ... ... | G. N. Metzger ... | — | 19 1 30 | |
| " ... ... | E. A. Renner ... | — | — | |
| " ... ... | W. B. Hughes ... | 30 1 30 | 21 5 30 | |
| " ... ... | W. F. O. Taylor ... | 12 1 30 | 7 8 30 | |
| " ... ... | M. A. S. Margai ... | 22 12 30 | — | |

### SANITARY STAFF.

| | | | | |
|---|---|---|---|---|
| Deputy Director of Health Service ... | Major W. H. Peacock | 4 5 30 | — | Promoted D.D.H.S., Nigeria, 14-8-30. |
| Assistant Director of Health Service ... | J. A. A. Duncan ... | — | — | Promoted A.D.H.S., 16-8-30. |
| Senior Health Officer | J. M. MacKay ... | — | 20 3 30 | Promoted A.D.H.S., Gold Goast, 16-1-30. |
| " ... ... | A. B. Monks ... | 19 10 30 | — | Promoted S.H.O., 16-1-30. |
| Medical Officer of Health ... ... | R. F. Campbell ... | 15 6 30 | 13 7 30 | Appointed M.O.H., 4-2-30. local leave. |
| Sanitary Superintendent and Training Officer ... ... | G. V. Herd ... | — | — | |
| Superintendent Sanitary Inspector ... | A. E. Wilkinson ... | 15 6 30 | 7 11 30 | |
| " ... ... | P. Osment ... | 2 11 30 | — | |

## NURSING STAFF.

| Office. | Name. | Absent on Leave. | | Remarks. |
|---|---|---|---|---|
| | | From | To | |
| Senior Nursing Sister | Miss A. E. MacMaster | 19 3 30 | 15 5 30 | |
| ,, ,, ... | Miss I. A. Marr ... | — | 17 4 30 | |
| Nursing Sister ... | Miss C. H. B. Goodwin | 4 5 30 | 2 10 30 | |
| ,, ... ... | Miss M. A. Henry ... | 7 9 30 | — | |
| ,, ... ... | Miss L. D. S. McPetrie | 19 10 30 | — | |
| ,, ... ... | Miss N. M. Brown ... | — | — | |
| ,, ... ... | Miss E. D. Stoneman | — | — | Services terminated on account of ill health. |
| ,, ... ... | Miss G. V. Brewer | 1 6 30 | — | Services terminated. |
| ,, ... ... | Miss A. M. Pearton | — | — | Appointed Nursing Sister 14-5-30., *vice* E. D. Stoneman. |
| | **AFRICAN MEDICAL SUBORDINATE STAFF.** | | | |
| Chief Dispenser ... | I. H. Wright ... | — | 6 1 30 | |
| Assistant Chief Dispenser ... ... | M. O. Frazer ... | — | — | |
| Hospital Warden ... | P. Q. A. John ... | 12 12 30 | — | |
| First Class Dispenser | O. E. Nylander ... | — | — | |
| ,, ,, | H. E. Frazer ... | — | — | |
| ,, ,, | P. J. John ... | — | — | |
| ,, ,, | M. B. Neville ... | — | — | |
| ,, ,, | I. B. Doherty ... | — | — | |
| ,, ,, | T. M. T. Scott ... | 29 5 30 | 13 8 30 | |
| ,, ,, | J. C. May ... | 15 2 30 | 14 4 30 | |
| ,, ,, | S. B. Williams ... | 19 3 30 | 18 5 30 | |
| ,, ,, | E. W. Cole ... | — | — | |
| ,, ,, | G. C. Heroe ... | 5 2 30 | 4 4 30 | |
| Second Class Dispensers | Ten | — | — | |
| Third Class Dispensers | Fifteen | — | — | |
| Laboratory Assistant ... | E. J. Cole ... | — | — | |
| Male Nurses and Apprentices ... | Thirty-three | — | — | |
| Female Nurses ... | Twenty-six | — | — | |
| Midwives ... ... | Two | — | — | |
| | **AFRICAN SANITARY SUBORDINATE STAFF.** | | | |
| Health Visitors ... | Mrs. V. Macfoy ... | — | — | |
| | Miss B. M. Johnson and others ... | — | — | |
| Third Grade Sanitary Inspector ... | W. E. J. Corkson ... | — | — | |
| Fourth Grade Sanitary Inspectors ... | Four. | | | |
| Fifth Grade Sanitary Inspectors and learners ... ... | Thirty-seven | | | |
| | **MEDICAL AND SANITARY CLERICAL STAFF.** | | | |
| Chief Clerk ... | S. G. Randall ... | 15 10 30 | 24 12 30 | |
| First Grade Clerk ... | M. St. George Auber | — | — | |
| Second Grade Clerk ... | C. B. K. M'carthy ... | — | — | |
| Senior Third Grade Clerks ... ... | Eleven | — | — | |
| Junior Third Grade Clerks ... ... | Seven | — | — | |
| | **MEDICAL STORE-KEEPING STAFF.** | | | |
| Chief Store-keeper ... | K. A. King ... | — | — | |
| Assistant Store-keeper | E. J. Beale ... | — | — | |
| ,, ,, | D. G. Kawaley ... | — | — | |

## II—FINANCE.

*1930 Estimates.—Expenditure.*

### MEDICAL.

Personal Emoluments:

| | £ |
|---|---|
| European ... ... ... ... ... | 19,997 |
| African ... ... ... ... ... ... | 20,250 |
| Allowances, etc. ... ... ... ... ... | 1,589 |
| Total ... ... ... | £41,836 |

Other Charges:

| | £ |
|---|---|
| Medical supplies and hospital equipment ... ... | 8,200 |
| Diets, provisions, etc. ... ... ... ... | 6,500 |
| Contributions to various associations and subsidies to Institutions ... ... ... ... ... | 2,945 |
| Passages, transport, freight, etc. ... ... ... | 5,220 |
| Other items ... ... ... ... ... | 6,761 |
| Total ... ... ... | £29,626 |

### SANITARY.

Personal Emoluments:

| | £ |
|---|---|
| European ... ... ... ... ... | 5,382 |
| African ... ... ... ... ... | 5,163 |
| Labour ... ... ... ... ... | 10,550 |
| Total ... ... ... | £21,095 |

Other Charges:

| | £ |
|---|---|
| Refuse disposal ... ... ... ... ... | 1,000 |
| Preventive measures ... ... ... ... | 1,700 |
| Apparatus ... ... ... ... ... | 800 |
| Transport ... ... ... ... ... | 1,346 |
| Other items ... ... ... ... ... | 572 |
| Total ... ... ... | £5,418 |

### RECEIPTS.

| | £ |
|---|---|
| African hospital fees ... ... ... ... | 164 |
| European hospital fees ... ... ... ... | 643 |
| Lunatic hospital fees ... ... ... ... | 347 |
| Sale of medicines ... ... ... ... | 904 |
| Total ... ... ... | £2,058 |

# III—METEOROLOGICAL RETURNS.

## FREETOWN (TOWER HILL).

Latitude 8° 29′ 30″ N. Longitude 13° 13′ 55″ W.

| MONTH. | Solar Maximum. | Minimum on Grass. | Shade Maximum. | Shade Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 90 | 72 | 18 | 81 | ... | 79 | ... | 1–3 |
| February ... ... ... | ... | ... | 95 | 63 | 32 | 79 | 0·15 | 72 | W.S.W. | 1–3 |
| March ... ... ... ... | ... | ... | 90 | 69 | 21 | 79 | 0·92 | 74 | W. | 4 |
| April ... ... ... ... | ... | ... | 88 | 69 | 19 | 78 | 0.57 | 75 | W.S.W. | 1–3 |
| May ... ... ... ... | ... | ... | 90 | 70 | 20 | 80 | 9·89 | 83 | W. | 4 |
| June ... ... ... ... | ... | ... | 87 | 67 | 20 | 77 | 10·12 | 82 | W.S.W. | 4 |
| July ... ... ... ... | ... | ... | 86 | 67 | 19 | 77 | 29·43 | 90 | S.S.W. | 1–3 |
| August ... ... ... ... | ... | ... | 85 | 68 | 17 | 76 | 23·09 | 87 | S.W. | 1–3 |
| September ... ... ... | ... | ... | 86 | 69 | 17 | 77 | 28·33 | 85 | S.W. | 1–3 |
| October ... ... ... | ... | ... | 89 | 68 | 21 | 79 | 9·22 | 82 | S.W. | 1–3 |
| November ... ... ... | ... | ... | 88 | 69 | 19 | 79 | 2·68 | 81 | N.E. a.m.<br>S.W. p.m. | 1–3 |
| December ... ... ... | ... | ... | 89 | 69 | 20 | 79 | 0·10 | 79 | N.N.E. | 1–3 |
| Year ... | ... | ... | 95 | 63 | 32 | 79 | 114·5 | 80·7 | W.S.W. | 1–3 |

### Batkanu.

Latitude 9° 4″ N. Longitude 12° 26′ W.

| Month. | Solar Maximum. | Minimum on Grass. | Shade Maximum. | Shade Minimum. | Range. | Mean. | Rainfall. | | Winds. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Amount in inches. | Degree of Humidity. | General Direction. | Average Force. |
| January | ... | ... | 95 | 69 | 26 | 82 | ... | 70 | ... | ... |
| February | ... | ... | 98 | 70 | 28 | 84 | 0·20 | 65 | ... | ... |
| March | ... | ... | 99 | 71 | 28 | 85 | 0·33 | 64 | ... | ... |
| April | ... | ... | 98 | 73 | 25 | 85 | 1·60 | 64 | ... | ... |
| May | ... | ... | 93 | 73 | 20 | 83 | 11·08 | 71 | ... | ... |
| June | ... | ... | 90 | 73 | 17 | 81 | 11·65 | 77 | ... | ... |
| July | ... | ... | 86 | 72 | 14 | 79 | 15·62 | 83 | ... | ... |
| August | ... | ... | 85 | 72 | 13 | 78 | 17·54 | 85 | ... | ... |
| September | ... | ... | 87 | 73 | 14 | 80 | 29·11 | 86 | ... | ... |
| October | ... | ... | 89 | 72 | 17 | 78 | 17·16 | 81 | ... | ... |
| November | ... | ... | 92 | 72 | 20 | 82 | 3·37 | 75 | ... | |
| December | ... | ... | 91 | 72 | 19 | 81 | 0·05 | 69 | ... | ... |
| Year | ... | ... | 99 | 69 | 30 | 84 | 107·71 | 74 | ... | ... |

## BONTHE (SHERBRO).

Latitude 7° 32′ N. Longitude 12° 32′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 88 | 73 | 15 | 81 | 0·40 | 75 | ... | ... |
| February ... ... ... | ... | ... | 89 | 73 | 16 | 81 | 0.44 | 72 | ... | ... |
| March ... ... ... ... | ... | ... | 89 | 72 | 17 | 81 | ... | 70 | ... | ... |
| April ... ... ... ... | ... | ... | 90 | 73 | 17 | 81 | 0·76 | 68 | ... | ... |
| May ... ... ... ... | ... | ... | 88 | 74 | 14 | 81 | 22·16 | 78 | ... | ... |
| June ... ... ... ... | ... | ... | 86 | 73 | 13 | 79 | 14·04 | 76 | ... | ... |
| July ... ... ... ... | ... | ... | 83 | 73 | 10 | 78 | 28·48 | 81 | ... | ... |
| August ... ... ... ... | ... | ... | 82 | 72 | 10 | 77 | 25·47 | 84 | ... | ... |
| September ... ... ... | ... | ... | 87 | 71 | 16 | 79 | 47·04 | 83 | ... | ... |
| October ... ... ... | ... | ... | 90 | 72 | 18 | 81 | 13·94 | 78 | ... | ... |
| November ... ... ... | ... | ... | 91 | 72 | 19 | 81 | 8·59 | 81 | ... | ... |
| December ... ... ... | ... | ... | 91 | 72 | 19 | 81 | 4·84 | 83 | ... | ... |
| Year ... | ... | ... | 91 | 71 | 20 | 81 | 166·16 | 77 | ... | ... |

## Bo.

Latitude 7° 56′ N. Longitude 11° 47′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. | | WINDS. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Amount in inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 92 | 68 | 24 | 80 | ... | 80 | ... | ... |
| February ... ... ... | ... | ... | 95 | 69 | 26 | 82 | 1·03 | 75 | ... | ... |
| March ... ... ... ... | ... | ... | 96 | 65 | 31 | 82 | 2·19 | 74 | ... | ... |
| April ... ... ... ... | ... | ... | 94 | 68 | 26 | 81 | 2·97 | 73 | ... | ... |
| May ... ... ... ... | ... | ... | 91 | 69 | 22 | 80 | 23·32 | 77 | ... | ... |
| June ... ... ... ... | ... | ... | 89 | 69 | 20 | 79 | 14·34 | 86 | ... | ... |
| July ... ... ... ... | ... | ... | 90 | 69 | 21 | 79 | 8·62 | 91 | ... | ... |
| August ... ... ... ... | ... | ... | 89 | 68 | 21 | 79 | 19·20 | 86 | ... | ... |
| September ... ... ... | ... | ... | 89 | 67 | 22 | 78 | 20·49 | 86 | ... | ... |
| October ... ... ... | ... | ... | 88 | 69 | 19 | 78 | 8·81 | 84 | ... | ... |
| November ... ... ... | ... | ... | 90 | 67 | 23 | 78 | 6·04 | 80 | ... | ... |
| December ... ... ... | ... | ... | 91 | 69 | 22 | 80 | 1·96 | 86 | ... | ... |
| Year ... | ... | ... | 96 | 65 | 31 | 80 | 107·97 | 81 | ... | ... |

## KABALA.

Latitude 9° 34′ N. Longitude 11° 31′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January | ... | ... | 90 | 63 | 27 | 76 | 1·22 | 52 | ... | ... |
| February | ... | ... | 95 | 67 | 18 | 76 | 2·40 | 52 | ... | ... |
| March | ... | ... | 96 | 69 | 27 | 82 | 0·70 | 57 | ... | ... |
| April | ... | ... | 96 | 70 | 26 | 83 | 1·77 | 56 | ... | ... |
| May | ... | ... | 93 | 69 | 24 | 81 | 7·10 | 66 | ... | ... |
| June | ... | ... | 92 | 70 | 22 | 81 | 9·95 | 68 | ... | ... |
| July | ... | ... | 90 | 70 | 20 | 80 | 15·30 | 78 | ... | .. |
| August | ... | ... | 89 | 68 | 21 | 78 | 12·46 | 83 | ... | ... |
| September | ... | ... | 90 | 68 | 22 | 79 | 16·64 | 78 | ... | ... |
| October | ... | ... | 90 | 68 | 22 | 79 | 11·30 | 77 | ... | ... |
| November | ... | ... | 90 | 69 | 21 | 79 | 1·51 | 78 | ... | ... |
| December | ... | ... | 90 | 69 | 21 | 79 | 0·67 | 77 | ... | ... |
| Year | ... | ... | 96 | 63 | 33 | 80 | 81·02 | 69 | ... | ... |

## PUJEHUN.

Latitude 7° 20′ N. Longitude 11° 43′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 93 | 69 | 24 | 81 | ... | 77 | ... | ... |
| February ... ... ... | ... | ... | 95 | 70 | 25 | 82 | 0·43 | 74 | ... | ... |
| March ... ... ... ... | ... | ... | 94 | 69 | 25 | 81 | 0·16 | 70 | ... | ... |
| April ... ... ... ... | ... | ... | 94 | 70 | 24 | 82 | 1·78 | 69 | ... | ... |
| May ... ... .. ... | ... | ... | 92 | 71 | 21 | 81 | 31·65 | 74 | ... | ... |
| June ... ... ... ... | ... | ... | 91 | 70 | 21 | 81 | 13·34 | 77 | ... | ... |
| July ... ... ... ... | .. | ... | 90 | 69 | 21 | 80 | 17·41 | 76 | ... | ... |
| August ... .. ... ... | ... | ... | 90 | 70 | 20 | 80 | 25·58 | 85 | ... | ... |
| September ... ... ... | ... | ... | 90 | 71 | 19 | 80 | 41·23 | 86 | ... | ... |
| October ... ... ... | ... | ... | 91 | 70 | 21 | 81 | 12·66 | 80 | ... | ... |
| November ... ... ... | ... | ... | 92 | 71 | 21 | 82 | 7·28 | 82 | ... | .... |
| December ... ... ... | ... | ... | 92 | 71 | 21 | 81 | 0·93 | 82 | ... | ... |
| Year ... | ... | ... | 95 | 69 | 26 | 82 | 152·45 | 82 | ... | ... |

## DARU.

Latitude 8° N. Longitude 10° 35′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. | | WINDS. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January | ... | ... | 86 | 72 | 14 | 79 | ... | 81 | ... | ... |
| February | ... | ... | 90 | 71 | 19 | 80 | 1·79 | 74 | ... | ... |
| March | ... | ... | 95 | 72 | 23 | 83 | 1·24 | 61 | ... | ... |
| April | ... | ... | 92 | 73 | 19 | 83 | 3·08 | 62 | ... | ... |
| May | ... | ... | 89 | 72 | 17 | 80 | 9·96 | 71 | ... | ... |
| June | ... | ... | 88 | 71 | 17 | 80 | 10·26 | 70 | ... | ... |
| July | ... | ... | 85 | 71 | 14 | 78 | 10·96 | 77 | ... | ... |
| August | ... | ... | 84 | 71 | 13 | 77 | 18·30 | 81 | ... | ... |
| September | ... | ... | 86 | 72 | 14 | 79 | 18·64 | 83 | ... | ... |
| October | ... | ... | 85 | 73 | 12 | 79 | 13·15 | 77 | ... | ... |
| November | ... | ... | 90 | 75 | 15 | 82 | 3·12 | 64 | ... | ... |
| December | ... | ... | 87 | 68 | 19 | 78 | 4·76 | 73 | ... | ... |
| Year | ... | ... | 95 | 71 | 24 | 83 | 95·26 | 73 | ... | ... |

## KAIYIMA.

Latitude. Longitude.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 91 | 64 | 27 | 77 | 0·25 | 78 | ... | ... |
| February ... ... ... | ... | ... | 93 | 67 | 26 | 80 | 0·63 | 69 | ... | ... |
| March ... ... ... ... | ... | ... | 94 | 69 | 25 | 81 | 4·44 | 74 | ... | ... |
| April ... ... ... ... | ... | ... | 93 | 71 | 22 | 82 | 2·44 | 69 | ... | ... |
| May ... ... ... ... | ... | ... | 89 | 69 | 20 | 79 | 14·29 | 78 | ... | ... |
| June ... ... ... ... | .. | ... | 90 | 63 | 27 | 76 | 15·10 | 70 | ... | ... |
| July ... ... ... ... | ... | ... | 86 | 67 | 19 | 76 | 18·06 | 70 | ... | ... |
| August ... ... ... ... | ... | ... | 85 | 67 | 18 | 76 | 17·74 | 83 | ... | ... |
| September ... ... ... | ... | ... | 86 | 69 | 17 | 78 | 20·51 | 83 | ... | ... |
| October ... ... ... ... | ... | ... | 89 | 69 | 20 | 79 | 14·84 | 78 | ... | ... |
| November ... ... ... | ... | ... | 89 | 69 | 20 | 79 | 2·61 | 67 | ... | ... |
| December ... ... ... | ... | ... | 91 | 63 | 28 | 77 | 2·10 | 66 | ... | ... |
| Year ... | ... | ... | 94 | 63 | 31 | 78 | 113·01 | 74 | ... | ... |

## HILL STATION.

Latitude. Longitude.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... |  |  |  |  |  |  | 0·03 |  |  |  |
| February ... ... ... |  |  |  |  |  |  | 0·21 |  |  |  |
| March ... ... .. ... |  |  |  |  |  |  | 2·29 |  |  |  |
| April ... ... ... ... |  |  |  |  |  |  | 0·48 |  |  |  |
| May ... ... ... .. |  |  |  |  |  |  | 13·53 |  |  |  |
| June ... ... ... ... |  |  | N | I L |  |  | 20·32 | N | I L |  |
| July ... ... ... ... |  |  |  |  |  |  | 41·88 |  |  |  |
| August ... ... ... ... |  |  |  |  |  |  | 27·08 |  |  |  |
| September ... ... ... |  |  |  |  |  |  | 28·00 |  |  |  |
| October ... ... ... ... |  |  |  |  |  |  | 11·45 |  |  |  |
| November ... ... ... |  |  |  |  |  |  | 2·57 |  |  |  |
| December ... ... ... |  |  |  |  |  |  | 0·86 |  |  |  |
| Year ... |  |  |  |  |  |  | 148·70 |  |  |  |

## KISSY.

Latitude 8° 28′ N. Longitude 13° 11′ 50″ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. | | WINDS. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January | ... | ... | 86 | 74 | 12 | 80 | ... | 71 | ... | ... |
| February | ... | ... | 88 | 74 | 14 | 81 | 0·07 | 65 | ... | ... |
| March | ... | ... | 87 | 73 | 14 | 80 | 0·45 | 66 | ... | ... |
| April | ... | ... | 89 | 75 | 14 | 82 | 0·31 | 63 | ... | ... |
| May | ... | ... | 86 | 75 | 10 | 80 | 9·82 | 73 | ... | ... |
| June | ... | ... | 85 | 73 | 12 | 79 | 8·89 | 76 | ... | ... |
| July | ... | ... | 84 | 73 | 11 | 79 | 23·89 | 79 | ... | ... |
| August | ... | ... | 82 | 72 | 10 | 77 | 23·92 | 82 | ... | ... |
| September | ... | ... | 83 | 73 | 10 | 78 | 32·38 | 83 | ... | ... |
| October | ... | ... | 85 | 73 | 12 | 79 | 9·94 | 80 | ... | ... |
| November | ... | ... | 87 | 75 | 12 | 81 | 3·39 | 76 | ... | ... |
| December | ... | ... | 87 | 75 | 12 | 81 | 0·59 | 73 | ... | ... |
| Year | ... | ... | 89 | 72 | 17 | 80 | 113·65 | 74 | ... | ... |

## MAKENI.

Latitude 8° 53′ N. Longitude 12° 7′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. | | WINDS. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... | ... | ... | 93 | 71 | 22 | 82 | ... | 64 | ... | ... |
| February ... ... ... | ... | ... | 97 | 66 | 31 | 81 | 0·28 | 85 | ... | ... |
| March ... ... ... ... | ... | ... | 97 | 67 | 30 | 82 | 0·90 | 80 | ... | ... |
| April ... ... ... ... | ... | ... | 94 | 74 | 20 | 84 | 2·02 | 80 | ... | ... |
| May ... ... ... ... | ... | ... | 93 | 73 | 20 | 83 | 12·86 | 83 | ... | ... |
| June ... ... ... .. | ... | ... | 89 | 73 | 16 | 81 | 10·91 | 78 | ... | ... |
| July ... ... ... ... | ... | ... | 90 | 71 | 19 | 80 | 27·12 | 77 | ... | ... |
| August ... ... ... ... | ... | ... | 91 | 70 | 21 | 81 | 22·82 | 82 | ... | ... |
| September ... ... ... | ... | ... | 93 | 73 | 20 | 83 | 16·24 | 77 | ... | ... |
| October ... ... ... ... | ... | ... | 92 | 71 | 21 | 82 | 11·95 | 71 | ... | ... |
| November ... ... ... | .. | ... | 91 | 73 | 18 | 82 | 5·70 | 69 | ... | ... |
| December ... ... ... | ... | ... | 93 | 72 | 21 | 83 | 2·17 | 69 | ... | ... |
| Year ... | ... | ... | 97 | 66 | 31 | 82 | 112·97 | 76 | ... | ... |

## MOYAMBA.

Latitude 8° 8′ N. Longitude 12° 27′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January .. ... ... | ... | ... | 91 | 68 | 23 | 79 | ... | 89 | ... | ... |
| February ... ... ... | ... | ... | 94 | 69 | 25 | 81 | 0·23 | 86 | ... | ... |
| March ... ... ... ... | ... | ... | 96 | 69 | 27 | 82 | 1·05 | 84 | ... | ... |
| April ... ... ... ... | ... | ... | 96 | 70 | 26 | 83 | 3·22 | 83 | ... | ... |
| May ... ... .. ... | ... | ... | 91 | 71 | 20 | 81 | 17·37 | 84 | ... | ... |
| June ... ... ... ... | ... | ... | 91 | 70 | 21 | 80 | 11·35 | 87 | ... | ... |
| July ... ... ... ... | ... | ... | 88 | 69 | 19 | 78 | 19·86 | 90 | ... | ... |
| August ... ... ... ... | ... | ... | 87 | 70 | 17 | 78 | 25·45 | 89 | ... | ... |
| September ... ... ... | .. | ... | 89 | 70 | 19 | 80 | 28·03 | 90 | ... | ... |
| October ... ... ... | ... | ... | 91 | 70 | 21 | 80 | 9·66 | 89 | ... | ... |
| November ... ... ... | ... | ... | 93 | 70 | 23 | 81 | 6·03 | 88 | ... | ... |
| December ... ... ... | ... | ... | 93 | 68 | 25 | 80 | 1·09 | 87 | ... | ... |
| Year ... | ... | ... | 96 | 68 | 28 | 82 | 123·34 | 87 | ... | ... |

## NJALA.

Latitude 8° 3′ N. Longitude 12° 9′ W.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January | ... | ... | 90 | 68 | 22 | 79 | ... | 75 | ... | ... |
| February | ... | ... | 94 | 69 | 25 | 81 | 0·45 | 69 | ... | ... |
| March | ... | ... | 95 | 70 | 25 | 82 | 0·62 | 62 | ... | ... |
| April | ... | ... | 95 | 71 | 24 | 83 | 3·34 | 64 | ... | ... |
| May | ... | ... | 91 | 72 | 19 | 81 | 15·22 | 79 | ... | ... |
| June | ... | ... | 89 | 71 | 18 | 80 | 16·60 | 79 | ... | ... |
| July | ... | ... | 85 | 71 | 14 | 78 | 14·67 | 88 | ... | ... |
| August | ... | ... | 83 | 71 | 12 | 77 | 30·31 | 91 | ... | ... |
| September | ... | ... | 86 | 72 | 14 | 79 | 22·92 | 90 | ... | ... |
| October | ... | ... | 89 | 71 | 18 | 80 | 9·40 | 83 | ... | ... |
| November | ... | .. | 92 | 72 | 20 | 82 | 10·39 | 82 | ... | ... |
| December | ... | ... | 91 | 71 | 20 | 81 | 4·15 | 81 | ... | ... |
| Year | ... | ... | 95 | 68 | 27 | 81 | 128·07 | 79 | ... | ... |

## NEWTON.

Latitude. Longitude.

| MONTH. | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| February ... ... ... |  |  |  |  |  |  | 0·17 |  |  |  |
| March ... ... ... ... |  |  |  |  |  |  | 1·72 |  |  |  |
| April ... ... ... ... |  |  |  |  |  |  | 1·21 |  |  |  |
| May ... ... ... ... |  |  | N | I L |  |  | 9·83 |  | N | I L |
| June ... ... ... ... |  |  |  |  |  |  | 13·10 |  |  |  |
| July ... ... ... ... |  |  |  |  |  |  | 22·70 |  |  |  |
| August ... ... ... .. |  |  |  |  |  |  | 22·24 |  |  |  |
| September ... ... ... |  |  |  |  |  |  | 23·48 |  |  |  |
| October ... ... ... ... |  |  |  |  |  |  | 9·91 |  |  |  |
| November ... ... ... |  |  |  |  |  |  | 3·42 |  |  |  |
| December ... ... ... |  |  |  |  |  |  | 0·93 |  |  |  |
| Year ... |  |  |  |  |  |  | 108·71 |  |  |  |

## MASANKI.

Latitude. Longitude.

| MONTH | Solar, Maximum. | Minimum on Grass. | Shade, Maximum. | Shade, Minimum. | Range. | Mean. | RAINFALL. |  | WINDS. |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | Amount in Inches. | Degree of Humidity. | General Direction. | Average Force. |
| January ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| February ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| March ... ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| April ... ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| May ... ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| June ... ... ... ... |  |  | N | I L |  |  | ... | N | I L |  |
| July ... ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| August ... ... ... ... |  |  |  |  |  |  | ... |  |  |  |
| September ... . . ... |  |  |  |  |  |  | ... |  |  |  |
| October ... ... ... ... |  |  |  |  |  |  | 9·77 |  |  |  |
| November ... ... ... |  |  |  |  |  |  | 2·27 |  |  |  |
| December ... ... ... |  |  |  |  |  |  | 1·30 |  |  |  |
| $\frac{1}{4}$ Year ... |  |  |  |  |  |  | 13·34 |  |  |  |

## IV—RETURN OF DISEASES AND DEATHS—EUROPEAN.

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES | | | | | | | |
| Enteric Group : | | | | | | | |
| (*a*) Typhoid fever ... | | | | | | | |
| (*b*) Paratyphoid A. ... | | | | | | | |
| (*c*) Paratyphoid B. ... | ... | 1 | 1 | ... | ... | ... | |
| (*d*) Type not defined ... | | | | | | | |
| Typhus ... ... | | | | | | | |
| Relapsing fever ... | | | | | | | |
| Undulant fever ... | | | | | | | |
| Malaria : | | | | | | | |
| (*a*) Tertian ... | ... | ... | ... | ... | ... | 9 | |
| (*b*) Quartan ... | | | | | | | |
| (*c*) Aestivo-autumnal ... | ... | 31 | 31 | ... | 1 | 31 | |
| (*d*) Cachexia ... | ... | 2 | 2 | 1 | ... | ... | |
| (*e*) Unclassified ... | ... | ... | ... | ... | ... | 42 | |
| (*f*) Blackwater ... | ... | 1 | 1 | 1 | ... | ... | |
| Smallpox : | | | | | | | |
| Alastrim ... ... | | | | | | | |
| Measles ... ... | | | | | | | |
| Scarlet fever ... ... | | | | | | | |
| Whooping cough ... | | | | | | | |
| Diphtheria ... ... | | | | | | | |
| Influenza ... ... | ... | ... | ... | ... | ... | 9 | |
| Miliary fever ... ... | | | | | | | |
| Mumps ... ... | ... | ... | ... | ... | ... | 1 | |
| Cholera ... ... | | | | | | | |
| Epidemic diarrhœa ... | | | | | | | |
| Dysentery : | | | | | | | |
| (*a*) Amœbic ... | ... | 4 | 4 | ... | ... | 3 | |
| (*b*) Bacillary ... | ... | 1 | 1 | ... | ... | ... | |
| (*c*) Undefined or due to other causes ... | | | | | | | |
| Plague : | | | | | | | |
| (*a*) Bubonic ... | | | | | | | |
| (*b*) Pneumonic ... | | | | | | | |
| (*c*) Septicæmic ... | | | | | | | |
| (*d*) Undefined ... | | | | | | | |
| Yellow fever ... ... | | | | | | | |
| Spirochætosis ictero-hæmorrhagica | | | | | | | |
| Leprosy ... ... | | | | | | | |
| Erysipelas ... ... | | | | | | | |
| Carried forward ... | ... | 40 | 40 | 2 | 1 | 95 | |

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition. To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the class.

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward .. | ... | 40 | 40 | 2 | 1 | 95 | |
| I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES—*continued.* | | | | | | | |
| Acute poliomyelitis ... | | | | | | | |
| Encephalitis lethargica ... | | | | | | | |
| Epidemic cerebro-spinal fever ... ... | | | | | | | |
| Other Epidemic Diseases : | | | | | | | |
| (*a*) Rubeola (German measles) ... ... | | | | | | | |
| (*b*) Varicella (chicken-pox) ... ... | | | | | | | |
| (*c*) Kala-azar ... | | | | | | | |
| (*d*) Phlebotomus fever | | | | | | | |
| (*e*) Dengue ... ... | | | | | | | |
| (*f*) Epidemic dropsy ... | | | | | | | |
| (*g*) Yaws ... ... | | | | | | | |
| (*h*) Trypanosomiasis ... | | | | | | | |
| Glanders ... ... | | | | | | | |
| Anthrax ... ... | | | | | | | |
| Rabies ... ... | | | | | | | |
| Tetanus ... ... | | | | | | | |
| Mycosis ... .. | | | | | | | |
| Tuberculosis, pulmonary and laryngeal ... ... | ... | 1 | 1 | 1 | ... | ... | |
| Tuberculosis of the meninges or central nervous system ... ... | | | | | | | |
| Tuberculosis of the intestines or peritoneum | | | | | | | |
| Tuberculosis of the vertebral column ... ... | | | | | | | |
| Tuberculosis of bones and joints ... ... | | | | | | | |
| Tuberculosis of other Organs : | | | | | | | |
| (*a*) Skin or subcutaneous tissue (Lupus) ... | | | | | | | |
| (*b*) Bones ... ... | | | | | | | |
| (*c*) Lymphatic system | | | | | | | |
| (*d*) Genito-urinary ... | | | | | | | |
| (*e*) Other organs ... | | | | | | | |
| Tuberculosis, Disseminated : | | | | | | | |
| (*a*) Acute ... ... | | | | | | | |
| (*b*) Chronic ... ... | | | | | | | |
| Carried forward ... | ... | 41 | 41 | 3 | 1 | 95 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1928. | Total Admission. | Total Cases treated | Deaths. | Remaining in Hospital at end of 1929. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | ... | 41 | 41 | 3 | 1 | 95 | |
| I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES—*continued.* | | | | | | | |
| Syphilis : | | | | | | | |
| (*a*) Primary ... | ... | ... | .. | ... | ... | 1 | |
| (*b*) Secondary ... | | | | | | | |
| (*c*) Tertiary ... | | | | | | | |
| (*d*) Hereditary ... | | | | | | | |
| (*e*) Period not indicated | | | | | | | |
| Soft chancre ... ... | | | | | | | |
| A.—Gonorrhœa and its complications ... ... | ... | ... | ... | ... | ... | 5 | |
| B.—Gonorrhœal ophthalmia | | | | | | | |
| C.—Gonorrhœal arthritis... | ... | 2 | 2 | ... | ... | ... | |
| D.—Granuloma venereum ... | | | | | | | |
| Septicæmia ... ... | ... | 1 | 1 | ... | ... | ... | |
| Other infections diseases ... | | | | | | | |
| II—GENERAL DISEASES NOT MENTIONED ABOVE. | | | | | | | |
| Cancer or other malignant tumours of the buccal cavity ... ... | | | | | | | |
| Cancer or other malignant tumours of the stomach or liver ... ... | | | | | | | |
| Cancer or other malignant tumours of the peritoneum, intestines, rectum ... | | | | | | | |
| Cancer or other malignant tumours of the female genital organs ... ... | | | | | | | |
| Cancer or other malignant tumours of the breast ... | | | | | | | |
| Cancer or other malignant tumours of the skin ... | | | | | | | |
| Cancer or other malignant tumours of organs not specified ... ... | | | | | | | |
| Tumours, non-malignant ... | ... | 2 | 2 | 1 | ... | 3 | |
| Acute rheumatism ... | ... | 1 | 1 | ... | ... | 7 | |
| Chronic rheumatism ... | ... | 1 | 1 | ... | ... | 17 | |
| Scurvy (including Barlow's disease) ... ... | | | | | | | |
| Pellagra ... ... | | | | | | | |
| Beriberi ... ... | | | | | | | |
| Rickets ... ... | | | | | | | |
| Diabetes (not including insipidus) ... ... | | | | | | | |
| Carried forward ... | ... | 48 | 48 | 4 | 1 | 128 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | ... | 48 | 48 | 4 | 1 | 128 | |
| II—GENERAL DISEASES NOT MENTIONED ABOVE, *continued.* | | | | | | | |
| Anæmia : | | | | | | | |
| (*a*) Pernicious ... | | | | | | | |
| (*b*) Other anæmias and chlorosis ... | ... | 6 | 6 | ... | ... | 5 | |
| Diseases of the pituitary body ... ... | | | | | | | |
| Diseases of the Thyroid Gland : | | | | | | | |
| (*a*) Exophthalmic goitre | | | | | | | |
| (*b*) Other diseases of the thyroid gland, myxœdema ... | | | | | | | |
| Diseases of the parathyroid glands ... ... | | | | | | | |
| Diseases of the thymus ... | | | | | | | |
| Diseases of the super-renal glands ... ... | | | | | | | |
| Diseases of the spleen ... | | | | | | | |
| Leukæmia : | | | | | | | |
| (*a*) Leukæmia ... | | | | | | | |
| (*b*) Hodgkin's disease | | | | | | | |
| Alcoholism ... ... | | | | | | | |
| Chronic poisoning by mineral substances (lead, mercury, etc.) ... | | | | | | | |
| Chronic poisoning by organic substances (morphia, cocaine, etc.) ... | | | | | | | |
| Other General Diseases : | ... | ... | ... | ... | ... | 3 | |
| Auto-intoxication ... | ... | 1 | 1 | ... | ... | 2 | |
| Purpura hæmorrhagica | | | | | | | |
| Hæmophilia ... ... | | | | | | | |
| Diabetes insipidus ... | | | | | | | |
| III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES. | | | | | | | |
| Encephalitis (not including encephalitis lethargica) | | | | | | | |
| Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis) | | | | | | | |
| Carried forward ... | ... | 55 | 55 | 4 | 1 | 138 | |

EUROPEAN—*continued.*

| Diseases | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | | 55 | 55 | 4 | 1 | 138 | |
| III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES, *continued.* | | | | | | | |
| Locomotor ataxia ... | | | | | | | |
| Other affections of the spinal cord ... ... | | | | | | | |
| Apoplexy : | | | | | | | |
| (*a*) Hæmorrhage ... | | | | | | | |
| (*b*) Embolism ... | | | | | | | |
| (*c*) Thrombosis ... | | | | | | | |
| Paralysis : | | | | | | | |
| (*a*) Hemiplegia ... | | | | | | | |
| (*b*) Other paralysis ... | | | | | | | |
| General paralysis of the insane ... ... | | | | | | | |
| Other forms of mental alienation ... ... | ... | 1 | 1 | ... | ... | ... | |
| Epilepsy ... ... | | | | | | | |
| Eclampsia, convulsions (non-puerperal) 5 years ... or over ... ... | | | | | | | |
| Infantile convulsions ... | | | | | | | |
| Chorea ... ... | | | | | | | |
| A.—Hysteria ... ... | | | | | | | |
| B.—Neuritis ... ... | ... | 1 | 1 | ... | ... | 4 | |
| C.—Neurasthenia ... | 1 | 2 | 3 | ... | ... | 1 | |
| Cerebral softening ... | | | | | | | |
| Other affections of the nervous system, such as paralysis agitans ... | ... | ... | ... | ... | ... | 4 | |
| Affections of the Organs of Vision : | | | | | | | |
| (*a*) Diseases of the eye | ... | ... | ... | ... | ... | 3 | |
| (*b*) Conjunctivitis ... | ... | 1 | 1 | ... | ... | 2 | |
| (*c*) Trachoma ... | | | | | | | |
| (*d*) Tumours of the eye | | | | | | | |
| (*e*) Other affections of the eye ... ... | ... | ... | ... | ... | ... | 4 | |
| Affections of the ear or mastoid sinus ... | ... | ... | ... | ... | ... | 15 | |
| Carried forward ... | 1 | 60 | 61 | 4 | 1 | 171 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 60 | 61 | 4 | 1 | 171 | |
| IV—AFFECTIONS OF THE CIRCULATORY SYSTEM. | | | | | | | |
| Pericarditis ... ... | | | | | | | |
| Acute endocarditis, or myocarditis ... .. | | | | | | | |
| Angina pectoris ... ... | | | | | | | |
| Other Diseases of the Heart | | | | | | | |
| (*a*) Valvular : | | | | | | | |
| Mitral ... ... | | | | | | | |
| Aortic ... ... | | | | | | | |
| Tricuspid ... | | | | | | | |
| Pulmonary ... | | | | | | | |
| (*b*) Myocarditis ... | | | | | | | |
| Diseases of the Arteries : | | | | | | | |
| (*a*) Aneurism ... ... | | | | | | | |
| (*b*) Arterio-sclerosis ... | | | | | | | |
| (*c*) Other diseases ... | | | | | | | |
| Embolism or thrombosis (non-cerebral) ... | | | | | | | |
| Diseases of the Veins : | | | | | | | |
| Hæmorrhoids ... ... | ... | ... | ... | ... | ... | 1 | |
| Varicose veins ... ... | | | | | | | |
| Phlebitis ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Diseases of the Lymphatic System : | | | | | | | |
| Lymphangitis ... ... | ... | ... | ... | ... | ... | 1 | |
| Lymphadenitis, bubo (non-specific) ... ... | ... | ... | ... | ... | ... | 5 | |
| Hæmorrhage of undetermined cause ... ... | | | | | | | |
| Other affections of the circulatory system ... | ... | ... | ... | ... | ... | 1 | |
| V—AFFECTIONS OF THE RESPIRATORY SYSTEM. | | | | | | | |
| Diseases of the Nasal Passages ... ... | | | | | | | |
| Adenoids ... ... | ... | 1 | 1 | ... | ... | ... | |
| Polypus ... ... | | | | | | | |
| Rhinitis ... ... | ... | ... | ... | ... | ... | 1 | |
| Coryza ... ... | ... | ... | ... | ... | ... | 12 | |
| Affections of the Larynx : | | | | | | | |
| Laryngitis ... ... | ... | ... | ... | ... | ... | 2 | |
| Carried forward ... | 1 | 62 | 63 | 4 | 1 | 195 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 62 | 63 | 4 | 1 | 195 | |
| V—AFFECTIONS OF THE RESPIRATORY SYSTEM, *continued.* | | | | | | | |
| Bronchitis : | | | | | | | |
| (*a*) Acute ... ... | ... | 1 | 1 | ... | ... | 9 | |
| (*b*) Chronic ... ... | ... | ... | ... | ... | ... | 5 | |
| Broncho-pneumonia ... | ... | ... | ... | ... | ... | 1 | |
| Pneumonia : | | | | | | | |
| (*a*) Lobar ... ... | ... | 2 | 2 | 1 | ... | ... | |
| (*b*) Unclassified ... | | | | | | | |
| Pleurisy, empyema ... | ... | ... | ... | ... | ... | 1 | |
| Congestion of the lungs .. | ... | | | | | | |
| Gangrene of the lungs ... | | | | | | | |
| Asthma ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Pulmonary emphysema ... | | | | | | | |
| Other affections of the lungs ... ... | | | | | | | |
| Other Affections of Respiratory system ... ... | ... | 2 | 2 | ... | ... | 3 | |
| Pulmonary spirochætosis ... | | | | | | | |
| VI—DISEASES OF THE DIGESTIVE SYSTEM. | | | | | | | |
| A.—Diseases of the Teeth or Gums : | | | | | | | |
| Caries, pyorrhœa, etc. | ... | ... | ... | ... | ... | 4 | |
| B.—Other Affections of the Mouth : | | | | | | | |
| Stomatitis ... ... | ... | ... | ... | ... | ... | 3 | |
| Glossitis, etc. ... | ... | 2 | 2 | ... | 1 | ... | |
| Affections of the Pharynx or Tonsils : | | | | | | | |
| Tonsillitis ... ... | ... | ... | ... | ... | ... | 13 | |
| Pharyngitis ... ... | ... | ... | ... | ... | ... | 10 | |
| Affections of the Oesophagus | | | | | | | |
| A.—Ulcer of the Stomach | ... | ... | ... | ... | ... | 1 | |
| B.—Ulcer of the duodenum | | | | | | | |
| Other Affections of the Stomach : | | | | | | | |
| Gastritis ... ... | ... | 2 | 2 | ... | ... | 4 | |
| Dyspepsia, etc. ... | ... | 2 | 2 | ... | ... | 35 | |
| Diarrhœa and Enteritis : | | | | | | | |
| Under two years ... | | | | | | | |
| Two years and over ... | ... | 4 | 4 | ... | ... | 18 | |
| Colitis ... ... | | | | | | | |
| Ulceration ... ... | | | | | | | |
| Sprue ... ... ... | | | | | | | |
| Ankylostomiasis ... ... | ... | 1 | 1 | ... | ... | ... | |
| Carried forward ... | 1 | 79 | 80 | 5 | 2 | 303 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 79 | 80 | 5 | 2 | 303 | |
| VI—DISEASES OF THE DIGESTIVE SYSTEM—*contd.* | | | | | | | |
| Diseases due to intestinal Parasites : | | | | | | | |
| (*a*) Cestoda (tænia) ... | ... | ... | ... | ... | ... | 2 | |
| (*b*) Trematoda (flukes) ... | | | | | | | |
| (*c*) Nematoda (other than Ankylostoma)— | | | | | | | |
| Ascaris ... ... | ... | ... | ... | ... | ... | 1 | |
| Trichocephalus dispar ... ... | | | | | | | |
| Trichina ... ... | | | | | | | |
| Dracunculus ... | | | | | | | |
| Strongylus ... | | | | | | | |
| Oxyuris ... ... | | | | | | | |
| (*d*) Coccidia ... ... | | | | | | | |
| (*e*) Other parasites ... | | | | | | | |
| (*f*) Unclassified ... | | | | | | | |
| Appendicitis ... ... | ... | 1 | 1 | ... | ... | ... | |
| Hernia ... ... | ... | 2 | 2 | ... | ... | ... | |
| A.—Affections of the Anus, fistula, etc. ... ... | | | | | | | |
| B.—Other Affections of the Intestines : ... | ... | ... | ... | ... | ... | 4 | |
| Enteroptosis ... | | | | | | | |
| Constipation ... | ... | ... | ... | ... | ... | 4 | |
| Acute yellow atrophy of the liver ... ... | | | | | | | |
| Hydatid of the liver ... | | | | | | | |
| Cirrhosis of the liver— | | | | | | | |
| (*a*) Alcoholic ... ... | ... | ... | ... | ... | ... | 1 | |
| (*b*) Other forms ... | | | | | | | |
| Biliary calculus ... ... | | | | | | | |
| Other Affections of the liver : | ... | ... | ... | ... | ... | 2 | |
| Abscess ... ... | | | | | | | |
| Hepatitis ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Cholecystitis ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Jaundice ... ... | ... | ... | ... | ... | .. | 2 | |
| Diseases of the pancreas ... | | | | | | | |
| Peritonitis (of unknown cause) ... ... | | | | | | | |
| Other Affections of the digestive system ... ... | ... | ... | ... | ... | ... | 11 | |
| Carried forward ... | 1 | 84 | 85 | 5 | 2 | 332 | |

European—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 84 | 85 | 5 | 2 | 332 | |
| VII—Diseases of the Genito-urinary System (non-venereal). | | | | | | | |
| Acute nephritis ... ... | | | | | | | |
| Chronic ... ... | | | | | | | |
| A.—Chyluria ... ... | | | | | | | |
| B.—Schistosomiasis ... | | | | | | | |
| Other affections of the Kidneys : | | | | | | | |
| Pyelitis, etc. ... | ... | 1 | 1 | ... | ... | ... | |
| Urinary calculus ... | .. | 1 | 1 | ... | ... | 1 | |
| Diseases of the Bladder : | | | | | | | |
| Cystitis ... ... | ... | 2 | 2 | ... | ... | 3 | |
| Diseases of the Urethra : | | | | | | | |
| (*a*) Stricture ... | | | | | | | |
| (*b*) Other ... ... | ... | ... | ... | ... | ... | 4 | |
| Diseases of the Prostate : | | | | | | | |
| Hypertrophy ... | | | | | | | |
| Prostatitis ... ... | ... | ... | ... | ... | ... | 1 | |
| Diseases (non-venereal) of the Genital Organs of man : | | | | | | | |
| Other Diseases of Male Genital Organs ... | ... | ... | ... | ... | ... | 1 | |
| Epididymitis ... | | | | | | | |
| Orchitis ... ... | ... | ... | ... | ... | ... | 2 | |
| Hydrocele ... ... | | | | | | | |
| Ulcer of penis ... | ... | 1 | 1 | ... | ... | ... | |
| Cysts or other non-malignant tumours of the ovaries ... ... | | | | | | | |
| Salpingitis : | | | | | | | |
| Abscess of the pelvis ... | | | | | | | |
| Uterine tumours (non-malignant) ... ... | | | | | | | |
| Uterine hæmorrhage (non-puerperal) ... ... | ... | ... | ... | ... | ... | 1 | |
| A.—Metritis ... ... | ... | 1 | 1 | ... | ... | ... | |
| B.—Other Affections of the Female Genital Organs : | | | | | | | |
| Displacements of uterus | ... | ... | ... | ... | ... | 1 | |
| Amenorrhœa ... ... | | | | | | | |
| Dysmenorrhœa ... | ... | ... | ... | ... | ... | 2 | |
| Leucorrhœa ... ... | | | | | | | |
| Diseases of the Breast (non-puerperal) : | | | | | | | |
| Mastitis ... ... | | | | | | | |
| Abscess of breast ... | | | | | | | |
| Carried forward ... | 1 | 90 | 91 | 5 | 2 | 348 | |

### EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 90 | 91 | 5 | 2 | 348 | |
| VIII—PUERPERAL STATE. | | | | | | | |
| A.—Normal labour ... | ... | ... | ... | ... | ... | 1 | |
| B.—Accidents of Pregnancy : | | | | | | | |
| (*a*) Abortion ... | ... | 1 | 1 | ... | ... | ... | |
| (*b*) Ectopic gestation ... | | | | | | | |
| (*c*) Other accidents of pregnancy ... | | | | | | | |
| Puerperal hæmorrhage ... | | | | | | | |
| Other accidents of parturition ... ... | | | | | | | |
| Puerperal septicæmia ... | | | | | | | |
| Phlegmasia dolens ... | | | | | | | |
| Puerperal eclampsia ... | | | | | | | |
| Sequelæ of labour ... | | | | | | | |
| Puerperal affections of the breast ... ... | | | | | | | |
| IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES. | | | | | | | |
| Gangrene ... ... | | | | | | | |
| Boil : ... ... | ... | 3 | 3 | ... | ... | 7 | |
| Carbuncle ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Abscess : | ... | 1 | 1 | ... | ... | 2 | |
| Whitlow ... ... | | | | | | | |
| Cellulitis ... ... | ... | ... | ... | ... | ... | 1 | |
| A.—Tinea ... ... | ... | ... | ... | ... | ... | 12 | |
| B.—Scabes ... ... | ... | ... | ... | ... | ... | 2 | |
| Other Diseases of the Skin : | ... | ... | ... | ... | ... | 13 | |
| (*a*) Erythema ... | ... | ... | ... | ... | ... | 2 | |
| (*b*) Uriticaria ... | ... | ... | ... | ... | ... | 1 | |
| (*c*) Eczema ... | ... | 4 | 4 | ... | 1 | 17 | |
| (*d*) Herpes ... | | | | | | | |
| (*e*) Psoriasis ... | | | | | | | |
| (*f*) Elephantiasis ... | | | | | | | |
| (*g*) Myiasis ... | | | | | | | |
| (*h*) Chigoes ... | ... | ... | ... | ... | ... | 2 | |
| (*i*) Cutaneous Leishmaniasis ... ... | | | | | | | |
| (*j*) Ulcer ... ... | ... | 1 | 1 | ... | ... | 8 | |
| X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS.) | | | | | | | |
| Diseases of Bones— | | | | | | | |
| Osteitis ... ... | | | | | | | |
| Carried forward ... | 1 | 101 | 102 | 5 | 3 | 417 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 101 | 102 | 5 | 3 | 417 | |
| X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)—*contd.* | | | | | | | |
| Diseases of Joints : | | | | | | | |
| Arthritis ... ... | ... | 1 | 1 | ... | ... | 4 | |
| Synovitis ... ... | ... | ... | ... | ... | ... | 4 | |
| Other diseases of bones or organs of locomotion ... | ... | ... | ... | ... | ... | 16 | |
| XI—MALFORMATIONS. | | | | | | | |
| Malformations : | | | | | | | |
| Hydrocephalus ... | | | | | | | |
| Hypospadias ... | | | | | | | |
| Spina bifida, etc. ... | | | | | | | |
| XII—DISEASES OF INFANCY. | | | | | | | |
| Congenital debility ... | | | | | | | |
| Premature birth ... | | | | | | | |
| Other affections of infancy | | | | | | | |
| Infant neglect (infants of three months or over) ... | | | | | | | |
| XIII—AFFECTIONS OF OLD AGE. | | | | | | | |
| Senility : | | | | | | | |
| Senile dementia ... | | | | | | | |
| XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES. | | | | | | | |
| Suicide by poisoning ... | | | | | | | |
| Corrosive poisoning (intentional) ... ... | | | | | | | |
| Suicide by gas poisoning | | | | | | | |
| Suicide by hanging or strangulation ... ... | | | | | | | |
| Suicide by drowning ... | | | | | | | |
| Suicide by firearms ... | | | | | | | |
| Suicide by cutting or stabbing instruments ... | | | | | | | |
| Suicide by jumping from a height ... ... | | | | | | | |
| Suicide by crushing ... | | | | | | | |
| Other suicides ... ... | | | | | | | |
| Food poisoning : | | | | | | | |
| Botulism ... ... | | | | | | | |
| Carried forward ... | 1 | 102 | 103 | 5 | 3 | 441 | |

## EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 1 | 102 | 103 | 5 | 3 | 441 | |
| XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—*contd.* | | | | | | | |
| Attacks of poisonous Animals : | | | | | | | |
| Snake bite ... ... | | | | | | | |
| Insect bite ... .. | ... | ... | ... | ... | ... | 8 | |
| Other accidental poisonings | | | | | | | |
| Burns (by fire) ... ... | | | | | | | |
| Burns (other than by fire) | | | | | | | |
| Suffocation (accidental) .. | | | | | | | |
| Poisoning by gas (accidental) ... ... | | | | | | | |
| Drowning (accidental) ... | | | | | | | |
| Wounds (by firearms, war excepted) ... ... | | | | | | | |
| Wounds (by cutting or stabbing instruments) ... | ... | ... | ... | ... | ... | 4 | |
| Wounds (by fall) ... | ... | ... | ... | ... | ... | 2 | |
| Wounds (in mines or quarries) ... ... | | | | | | | |
| Wounds (by machinery) | | | | | | | |
| Wounds (crushing, e.g. railway accidents, etc.) ... | ... | 4 | 4 | ... | ... | | |
| Injuries inflicted by animals, bites, kicks, etc. ... | ... | ... | ... | ... | ... | 3 | |
| Wounds inflicted on active service ... ... | | | | | | | |
| Executions of civilians by belligerents ... ... | | | | | | | |
| A.—Over fatigue ... | | | | | | | |
| B.—Hunger or thirst ... | | | | | | | |
| Exposure to cold, frost bite, etc. ... ... ... | | | | | | | |
| Exposure to Heat : | | | | | | | |
| Heat stroke ... ... | ... | ... | ... | ... | ... | 1 | |
| Sun-stroke ... ... | ... | ... | ... | ... | ... | 1 | |
| Lightning stroke ... | | | | | | | |
| Electric shock ... ... | | | | | | | |
| Murder by firearms ... | | | | | | | |
| Murder by cutting or stabbing instruments ... | | | | | | | |
| Murder by other means ... | | | | | | | |
| Infanticide (murder of an infant under one year) | | | | | | | |
| A.—Dislocation ... ... | ... | 2 | 2 | ... | ... | 1 | |
| B.—Sprain ... ... | ... | 2 | 2 | ... | ... | 4 | |
| C.—Fracture ... ... | 1 | 4 | 5 | ... | ... | 1 | |
| Carried forward ... | 2 | 114 | 116 | 5 | 3 | 466 | |

EUROPEAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 2 | 114 | 116 | 5 | 3 | 466 | |
| XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—*contd.* | | | | | | | |
| Other external injuries ... | ... | 1 | 1 | ... | ... | 19 | |
| Deaths by violence of unknown cause ... ... | | | | | | | |
| XV—ILL-DEFINED DISEASES. | | | | | | | |
| Sudden death (cause unknown) ... ... | | | | | | | |
| A.—Diseases not already specified or ill-defined : | | | | | | | |
| Ascites ... ... | | | | | | | |
| Œdema ... ... | | | | | | | |
| Asthenia ... ... | ... | 5 | 5 | ... | ... | 22 | |
| Shock ... ... | | | | | | | |
| Hyper-pyrexia ... | 1 | 4 | 5 | ... | ... | 4 | |
| B.—Malingering ... | | | | | | | |
| Total ... ... | 3 | 124 | 127 | 5 | 3 | 511 | |

## RETURN OF DISEASES AND DEATHS—AFRICAN.

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| I—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES | | | | | | | |
| Enteric Group : | | | | | | | |
| (*a*) Typhoid fever ... | | | | | | | |
| (*b*) Paratyphoid A. ... | | | | | | | |
| (*c*) Paratyphoid B. ... | ... | 3 | 3 | ... | ... | ... | |
| (*d*) Type not defined ... | ... | 11 | 11 | ... | ... | ... | |
| Typhus ... ... | | | | | | | |
| Relapsing fever ... | | | | | | | |
| Undulant fever ... | | | | | | | |
| Malaria : | | | | | | | |
| (*a*) Tertian ... ... | ... | 2 | 2 | 1 | ... | 34 | |
| (*b*) Quartan ... ... | | | | | | | |
| (*c*) Aestivo-autumnal ... | 4 | 220 | 224 | 2 | 2 | 1,671 | |
| (*d*) Cachexia ... ... | ... | ... | ... | ... | ... | 9 | |
| (*e*) Unclassified ... | ... | 89 | 89 | 2 | ... | 3,951 | |
| (*f*) Blackwater ... | ... | 3 | 3 | ... | ... | 2 | |
| Smallpox : | ... | 1 | 1 | ... | ... | ... | |
| Alastrim ... ... | | | | | | | |
| Measles ... ... | ... | 4 | 4 | ... | ... | 24 | |
| Scarlet fever ... ... | | | | | | | |
| Whooping cough ... | ... | 1 | 1 | ... | ... | 174 | |
| Diphtheria ... ... | | | | | | | |
| Influenza ... ... | ... | 24 | 24 | ... | ... | 11 | |
| Miliary fever ... ... | | | | | | | |
| Mumps ... ... | ... | ... | ... | ... | ... | 46 | |
| Cholera ... ... | | | | | | | |
| Epidemic diarrhœa ... | | | | | | | |
| Dysentery: | | | | | | | |
| (*a*) Amœbic ... ... | ... | 49 | 49 | 3 | 1 | 144 | |
| (*b*) Bacillary ... ... | ... | 2 | 2 | 1 | ... | ... | |
| (*c*) Undefined or due to other causes ... | ... | 19 | 19 | 3 | ... | 207 | |
| Plague : | | | | | | | |
| (*a*) Bubonic ... ... | | | | | | | |
| (*b*) Pneumonic ... | | | | | | | |
| (*c*) Septicæmic ... | | | | | | | |
| (*d*) Undefined ... | | | | | | | |
| Yellow fever ... ... | | | | | | | |
| Spirochætosis ictero-hæmorrhagica ... ... | | | | | | | |
| Leprosy ... ... | 13 | 11 | 24 | 1 | 13 | 497 | |
| Erysipelas ... ... | ... | ... | ... | ... | ... | 1 | |
| Acute poliomyelitis ... | | | | | | | |
| Encephalitis lethargica ... | ... | ... | ... | ... | ... | 2 | |
| Epidemic cerebro-spinal fever ... ... | | | | | | | |
| Carried forward ... | 17 | 439 | 456 | 13 | 16 | 6,773 | |

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition. To save space the unimportant diseases of any class can be grouped in their places as " Other Diseases " of the class.

## AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 17 | 439 | 456 | 13 | 16 | 6,773 | |
| I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES, *continued.* | | | | | | | |
| Other Epidemic Diseases : | | | | | | | |
| (*a*) Rubeola (German measles) ... ... | | | | | | | |
| (*b*) Varicella (chicken-pox) ... ... | 2 | 69 | 71 | ... | ... | 60 | |
| (*c*) Kala-azar ... | | | | | | | |
| (*d*) Phlebotomus fever ... | | | | | | | |
| (*e*) Dengue ... ... | | | | | | | |
| (*f*) Epidemic dropsy ... | | | | | | | |
| (*g*) Yaws ... ... | 4 | 77 | 81 | 2 | 11 | 14,001 | |
| (*h*) Trypanosomiasis ... | ... | 4 | 4 | 1 | ... | 7 | |
| Glanders ... ... | | | | | | | |
| Anthrax ... ... | | | | | | | |
| Rabies ... ... | | | | | | | |
| Tetanus ... ... | 1 | 16 | 17 | 5 | ... | 8 | |
| Mycosis ... ... | | | | | | | |
| Tuberculosis, pulmonary and laryngeal ... ... | 1 | 43 | 44 | 15 | 3 | 86 | |
| Tuberculosis of the meninges or central nervous system | ... | 2 | 2 | ... | ... | ... | |
| Tuberculosis of the intestines or peritoneum ... | ... | ... | ... | ... | ... | 1 | |
| Tuberculosis of the vertebral column ... ... | | ... | ... | ... | ... | 4 | |
| Tuberculosis of bones and joints ... ... | ... | 4 | 4 | ... | 1 | 6 | |
| Tuberculosis of other Organs : | | | | | | | |
| (*a*) Skin or subcutaneous tissue (Lupus) ... | ... | ... | ... | ... | ... | 1 | |
| (*b*) Bones ... ... | ... | ... | ... | ... | ... | 3 | |
| (*c*) Lymphatic system ... | | | | | | | |
| (*d*) Genito-urinary .. | | | | | | | |
| (*e*) Other organs ... | | | | | | | |
| Tuberculosis Disseminated : | | | | | | | |
| (*a*) Acute ... ... | | | | | | | |
| (*b*) Chronic ... ... | | | | | | | |
| Syphilis : | | | | | | | |
| (*a*) Primary ... | 2 | 4 | 6 | ... | ... | 39 | |
| (*b*) Secondary ... | ... | 1 | 1 | ... | ... | 23 | |
| (*c*) Tertiary ... | 4 | 32 | 36 | 1 | 1 | 463 | |
| (*d*) Hereditary ... | ... | 1 | 1 | ... | ... | 7 | |
| (*e*) Period not indicated | ... | 8 | 8 | ... | ... | 20 | |
| Carried forward ... | 31 | 700 | 731 | 37 | 32 | 21,502 | |

## AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 31 | 700 | 731 | 37 | 32 | 21,502 | |
| I—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES, *continued.* | | | | | | | |
| Soft chancre ... ... | ... | 24 | 24 | ... | ... | 175 | |
| A.—Gonorrhœa and its complications ... ... | 1 | 75 | 76 | 1 | 3 | 2,308 | |
| B.—Gonorrhœal ophthalmia ... ... | 1 | 12 | 13 | 1 | ... | 70 | |
| C.—Gonorrhœal arthritis | .. | 28 | 28 | ... | ... | 77 | |
| D.—Granuloma venereum | ... | 1 | 1 | ... | ... | 1 | |
| Septicæmia ... ... | ... | 5 | 5 | 5 | ... | 2 | |
| Other infectious diseases ... | ... | ... | ... | ... | ... | 27 | |
| II—GENERAL DISEASES NOT MENTIONED ABOVE. | | | | | | | |
| Cancer or other malignant tumours of the buccal cavity ... ... | ... | 1 | 1 | ... | ... | 1 | |
| Cancer or other malignant tumours of the stomach or liver ... ... | ... | 5 | 5 | 4 | ... | 1 | |
| Cancer or other malignant tumours of the peritoneum, intestines, rectum | ... | 5 | 5 | ... | ... | ... | |
| Cancer or other malignant tumours of the female genital organs ... ... | ... | 8 | 8 | ... | ... | ... | |
| Cancer or other malignant tumours of the breast ... | ... | 5 | 5 | ... | ... | ... | |
| Cancer or other malignant tumours of the skin ... | ... | 5 | 5 | ... | ... | 7 | |
| Cancer or other malignant tumours of organs not specified ... ... | 3 | 2 | 5 | 1 | ... | 3 | |
| Tumours, non-malignant ... | 3 | 29 | 32 | ... | 3 | 86 | |
| Acute rheumatism ... | ... | 21 | 21 | ... | 1 | 824 | |
| Chronic rheumatism ... | 2 | 33 | 35 | 3 | 2 | 4,292 | |
| Scurvy (including Barlow's disease) ... ... | ... | ... | ... | ... | .. | 1 | |
| Pellagra ... ... | ... | ... | ... | ... | ... | ... | |
| Beriberi ... ... | ... | 8 | 8 | 1 | ... | 17 | |
| Rickets ... ... | ... | .. | ... | ... | ... | 13 | |
| Diabetes (not including insipidus) ... ... | ... | ... | .. | ... | .. | ... | |
| Anæmia : | ... | ... | ... | ... | ... | ... | |
| (*a*) Pernicious ... | ... | ... | ... | ... | ... | ... | |
| (*b*) Other anæmias and chlorosis ... | ... | 7 | 7 | 2 | 1 | 489 | |
| Avitaminosis ... ... | 1 | 10 | 11 | 4 | ... | 64 | |
| Carried forward ... | 42 | 984 | 1,026 | 59 | 42 | 29,960 | |

## AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 42 | 984 | 1,026 | 59 | 42 | 29,960 | |
| GENERAL DISEASES NOT MENTIONED ABOVE—*contd.* | | | | | | | |
| Diseases of the pituitary body ... ... ... | | | | | | | |
| Diseases of the Thyroid Gland : | | | | | | | |
| (*a*) Exophthalmic goitre | 1 | 1 | 2 | 1 | ... | 11 | |
| (*b*) Other diseases of the thyroid gland, myxœdema ... .. | ... | ... | ... | ... | ... | 30 | |
| Diseases of the parathyroid glands ... ... | ... | ... | ... | ... | ... | 2 | |
| Diseases of the thymus .. | | | | | | | |
| Diseases of the super-renal glands ... ... | | | | | | | |
| Diseases of the spleen ... | ... | 10 | 10 | ... | ... | 252 | |
| Leukæmia : | | | | | | | |
| (*a*) Leukæmia ... ... | ... | 2 | 2 | ... | ... | 1 | |
| (*b*) Hodgkin's disease ... | ... | ... | ... | ... | ... | 1 | |
| Alcoholism ... ... | ... | 3 | 3 | ... | 1 | ... | |
| Chronic poisoning by mineral substances (lead, mercury, etc.) ... ... | | | | | | | |
| Chronic poisoning by organic substances (morphia, cocaine, etc.) ... | ... | 1 | 1 | ... | ... | 1 | |
| Other General Diseases ... | 3 | 3 | 6 | 1 | 1 | 177 | |
| Auto-intoxication ... | ... | 1 | 1 | 1 | ... | 14 | |
| Purpura hæmorrhagica | | | | | | | |
| Hæmophilia ... ... | ... | ... | ... | ... | ... | 2 | |
| Diabetes insipidus ... | | | | | | | |
| III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES. | | | | | | | |
| Encephalitis (not including encephalitis lethargica) | | | | | | | |
| Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis) | ... | 3 | 3 | 3 | ... | 1 | |
| Locomotor ataxia ... | ... | ... | ... | ... | ... | 1 | |
| Other affections of the spinal cord ... ... | 1 | 1 | 2 | 1 | ... | ... | |
| Apoplexy : | | | | | | | |
| (*a*) Hæmorrhage ... | ... | 2 | 2 | 1 | ... | ... | |
| (*b*) Embolism ... ... | | | | | | | |
| (*c*) Thrombosis ... | ... | ... | ... | ... | ... | 3 | |
| Carried forward ... | 47 | 1,011 | 1,058 | 67 | 44 | 30,456 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 47 | 1,011 | 1,058 | 67 | 44 | 30,456 | |
| III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—*continued.* | | | | | | | |
| Paralysis : | ... | ... | ... | ... | ... | ... | |
| (*a*) Hemiplegia ... | 13 | 18 | 31 | 7 | 6 | 133 | |
| (*b*) Other paralysis . . | 12 | 32 | 44 | 10 | 6 | 40 | |
| General paralysis of the insane ... ... | | | | | | | |
| Other forms of mental alienation ... ... | 6 | 16 | 22 | 2 | 8 | 7 | |
| Epilepsy . . ... | 2 | 8 | 10 | 1 | 1 | 26 | |
| Eclampsia, convulsions, (non-puerperal) 5 years or over ... ... | | | | | | | |
| Infantile convulsions ... | ... | ... | ... | ... | ... | 3 | |
| Chorea ... ... | ... | | | | | | |
| A.—Hysteria ... ... | .. | 3 | 3 | ... | ... | 3 | |
| B.—Neuritis ... ... | 2 | 5 | 7 | 1 | ... | 171 | |
| C.—Neurasthenia ... | 1 | 5 | 6 | ... | ... | 20 | |
| Cerebal softening ... | | | | | | | |
| Other affections of the nervours system, such as paralysis agitans ... . ... | 1 | 9 | 10 | 2 | 1 | 174 | |
| Affections of the Organs of Vision : | | | | | | | |
| (*a*) Diseases of the eye | ... | 6 | 6 | ... | ... | 7 | |
| (*b*) Conjunctivitis ... | 1 | 9 | 10 | ... | ... | 696 | |
| (*c*) Trachoma ... ... | ... | ... | ... | ... | ... | 5 | |
| (*d*) Tumours of the eye | ... | 1 | 1 | ... | ... | 44 | |
| (*e*) Other affections of the eye ... ... | 5 | 31 | 36 | ... | 1 | 402 | |
| Affections of the ear or mastoid sinus ... ... | ... | 15 | 15 | 1 | ... | 897 | |
| IV—AFFECTIONS OF THE CIRCULATORY SYSTEM. | | | | | | | |
| Pericarditis ... ... | ... | ... | ... | ... | ... | 1 | |
| Acute endocarditis, or myocarditis ... ... | ... | 3 | 3 | 1 | ... | 3 | |
| Angina pectoris ... ... | | | | | | | |
| Other Diseases of the Heart : | 1 | 2 | 3 | 1 | ... | 34 | |
| (*a*) Valvular : | ... | 8 | 8 | ... | 1 | 8 | |
| Mitral ... ... | 1 | 32 | 33 | 10 | 1 | 118 | |
| Aortic ... ... | ... | 12 | 12 | 6 | 1 | 37 | |
| Tricuspid ... ... | | | | | | | |
| Pulmonary ... | | | | | | | |
| (*b*) Myocarditis ... | ... | 11 | 11 | 7 | 1 | 24 | |
| Carried forward ... | 92 | 1,237 | 1,329 | 116 | 71 | 33,309 | |

AFRICAN—*continued.*

| Diseases | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 92 | 1,237 | 1,329 | 116 | 71 | 33,309 | |
| IV—AFFECTIONS OF THE CIRCULATORY SYSTEM, *continued.* | | | | | | | |
| Diseases of the Arteries : | | | | | | | |
| (*a*) Aneurism ... ... | ... | 7 | 7 | 2 | ... | 13 | |
| (*b*) Arterio-sclerosis ... | ... | 3 | 3 | 1 | ... | 22 | |
| (*c*) Other diseases ... | ... | 1 | 1 | ... | ... | 2 | |
| Embolism or thrombosis (non-cerebral) ... ... | | | | | | | |
| Diseases of the Veins : | | | | | | | |
| Hæmorrhoids ... ... | ... | 5 | 5 | ... | ... | 108 | |
| Varicose veins ... ... | ... | 1 | 1 | ... | ... | 12 | |
| Phlebitis ... ... | ... | 4 | 4 | ... | ... | 3 | |
| Diseases of the Lymphatic System : | | | | | | | |
| Lymphangitis ... ... | ... | 13 | 13 | ... | ... | 73 | |
| Lymphadenitis, bubo (non-specific) ... | 3 | 62 | 65 | ... | 2 | 603 | |
| Hæmorrhage of undetermined cause ... | ... | 1 | 1 | ... | ... | 14 | |
| Other affections of the circulatory system ... | ... | 25 | 25 | 3 | ... | 96 | |
| V—AFFECTIONS OF THE RESPIRATORY SYSTEM. | | | | | | | |
| Diseases of the Nasal Passages (other diseases)... | ... | ... | ... | ... | ... | 3 | |
| Adenoids ... ... | ... | 4 | 4 | ... | ... | 7 | |
| Polypus ... ... | ... | ... | ... | ... | ... | 3 | |
| Rhinitis ... ... | ... | 10 | 10 | ... | ... | 47 | |
| Coryza ... ... | ... | 5 | 5 | ... | ... | 1,077 | |
| Affections of the Larynx : | | | | | | | |
| Laryngitis ... ... | ... | 7 | 7 | ... | ... | 113 | |
| Bronchitis : | | | | | | | |
| (*a*) Acute ... ... | 2 | 103 | 105 | 1 | 6 | 5,134 | |
| (*b*) Chronic ... ... | ... | 19 | 19 | 3 | 2 | 3,675 | |
| Broncho-pneumonia ... | 1 | 41 | 42 | 12 | ... | 48 | |
| Pneumonia : | | | | | | | |
| (*a*) Lobar ... ... | ... | 45 | 45 | 16 | 2 | 9 | |
| (*b*) Unclassified ... | 1 | 15 | 16 | 3 | ... | 34 | |
| Carried forward ... | 99 | 1,608 | 1,707 | 157 | 83 | 44,405 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances |
| Brought forward ... | 99 | 1,608 | 1,707 | 157 | 83 | 44,405 | |
| V—AFFECTIONS OF THE RESPIRATORY SYSTEM, *continued.* | | | | | | | |
| Pleurisy, empyema ... | 4 | 42 | 46 | 6 | 1 | 131 | |
| Congestion of the lungs ... | ... | 3 | 3 | 1 | ... | 30 | |
| Gangrene of the lungs ... | | | | | | | |
| Asthma ... ... | ... | 6 | 6 | ... | ... | 100 | |
| Pulmonary emphysema ... | ... | ... | ... | ... | ... | 2 | |
| Other affections of the lungs | ... | 6 | 6 | 1 | ... | 1,052 | |
| Pulmonary spirochætosis | ... | 1 | 1 | ... | ... | ... | |
| VI—DISEASES OF THE DIGESTIVE SYSTEM. | | | | | | | |
| A.—Diseases of Teeth or Gums : | | | | | | | |
| Caries, pyorrhœa, etc. ... | ... | 8 | 8 | ... | ... | 1,657 | |
| B.—Other affections of the mouth : | | | | | | | |
| Stomatitis ... ... | ... | 1 | 1 | ... | ... | 281 | |
| Glossitis, etc. ... | ... | 3 | 3 | ... | ... | 82 | |
| Affections of the Pharynx or Tonsils : | | | | | | | |
| Tonsillitis ... ... | ... | 9 | 9 | ... | ... | 273 | |
| Pharyngitis ... ... | ... | 2 | 2 | ... | ... | 179 | |
| Affections of the œsophagus | | | | | | | |
| A.—Ulcer of the stomach | ... | 1 | 1 | 1 | ... | 1 | |
| B.—Ulcer of the duodenum | | | | | | | |
| Other affections of the Stomach : | | | | | | | |
| Gastritis ... ... | 1 | 13 | 14 | ... | ... | 334 | |
| Dyspepsia, etc. ... | ... | 19 | 19 | 1 | ... | 3,793 | |
| Diarrhœa and Enteritis : | | | | | | | |
| Under two years ... | ... | 4 | 4 | ... | ... | 136 | |
| Diarrhœa and Enteritis : | | | | | | | |
| Two years and over ... | 2 | 69 | 71 | 7 | 2 | 854 | |
| Colitis ... ... | ... | 9 | 9 | ... | ... | 20 | |
| Ulceration ... ... | | | | | | | |
| Sprue ... ... ... | | | | | | | |
| Ankylostomiasis ... ... | ... | 37 | 37 | 1 | ... | 121 | |
| Carried forward ... | 106 | 1,841 | 1,947 | 175 | 86 | 53,451 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances |
| Brought forward ... | 106 | 1,841 | 1,947 | 175 | 86 | 53,451 | |
| VI—DISEASES OF THE DIGESTIVE SYSTEM, *continued.* | | | | | | | |
| Diseases due to Intestinal Parasites : | | | | | | | |
| (*a*) Cestoda (tænia) ... | ... | 10 | 10 | ... | ... | 254 | |
| (*b*) Trematoda (flukes) ... | | | | | | | |
| (*c*) Nematoda (other than ankylostoma)— | ... | ... | ... | ... | ... | 5 | |
| Ascaris ... ... | 1 | 29 | 30 | 1 | ... | 3,387 | |
| Trichocephalus dispar | | | | | | | |
| Trichina ... ... | | | | | | | |
| Dracunculus ... | | | | | | | |
| Strongylus ... ... | ... | ... | ... | ... | ... | 1 | |
| Oxyuris ... ... | ... | ... | ... | ... | ... | 1 | |
| (*d*) Coccidia ... ... | | | | | | | |
| (*e*) Other parasites ... | ... | .. | ... | ... | ... | 6 | |
| (*f*) Unclassified ... | ... | ... | ... | .. | ... | 3 | |
| Appendicitis ... ... | ... | 1 | 1 | ... | ... | 2 | |
| Hernia ... ... | 11 | 281 | 292 | 6 | 14 | 320 | |
| A.—Affections of the anus, fistula, etc. ... ... | 1 | 18 | 19 | 3 | ... | 34 | |
| B.—Other Affections of the Intestines : | ... | 2 | 2 | ... | ... | 14 | |
| Enteroptosis ... | ... | ... | .. | ... | ... | 1 | |
| Constipation ... | ... | 19 | 19 | ... | ... | 6,573 | |
| Acute yellow atrophy of the liver ... ... | | | | | | | |
| Hydatid of the liver ... | ... | 1 | 1 | ... | ... | 1 | |
| Cirrhosis of the liver : | | | | | | | |
| (*a*) Alcoholic ... ... | ... | 6 | 6 | 3 | ... | 2 | |
| (*b*) Other forms ... | ... | 3 | 3 | 1 | ... | 6 | |
| Biliary calculus ... ... | | | | | | | |
| Other Affections of the Liver : | | | | | | | |
| Abscess ... ... | ... | 4 | 4 | 1 | ... | 10 | |
| Hepatitis ... ... | ... | 13 | 13 | 4 | ... | 67 | |
| Cholecystitis ... ... | ... | ... | ... | ... | ... | 6 | |
| Jaundice ... ... | ... | 4 | 4 | ... | ... | 34 | |
| Diseases of the pancreas | | | | | | | |
| Peritonitis (of unknown cause) ... ... | ... | 2 | 2 | 1 | ... | 2 | |
| Other affections of the digestive system ... | 1 | 25 | 26 | 10 | ... | 651 | |
| Carried forward ... | 120 | 2,259 | 2,379 | 205 | 100 | 64,831 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 120 | 2,259 | 2,379 | 205 | 100 | 64,831 | |
| VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL). | | | | | | | |
| Acute nephritis ... | ... | 15 | 15 | 3 | ... | 47 | |
| Chronic 〃 ... ... | ... | 10 | 10 | 3 | ... | 54 | |
| A.—Chyluria ... ... | | | | | | | |
| B.—Schistosomiasis ... | 1 | 11 | 12 | ... | ... | 85 | |
| Other Affections of the Kidneys : | ... | 4 | 4 | 3 | ... | 120 | |
| Pyelitis, etc. ... ... | ... | 1 | 1 | ... | ... | 47 | |
| Urinary calculus ... | ... | .. | ... | ... | ... | 2 | |
| Diseases of the Bladder : | | | | | | | |
| Cystitis ... ... | ... | 6 | 6 | 3 | ... | 71 | |
| Diseases of the Urethra : | | | | | | | |
| (*a*) Stricture ... ... | 5 | 29 | 34 | 1 | ... | 97 | |
| (*b*) Other ... ... | ... | 11 | 11 | ... | 1 | 68 | |
| Diseases of the Prostate : | | | | | | | |
| Hypertrophy ... ... | | | | | | | |
| Prostatitis ... ... | ... | 17 | 17 | 2 | ... | 8 | |
| Diseases (non-venereal) of the Genital Organs of Man : | | | | | | | |
| Other Diseases of the Male Genital Organs ... | 3 | 10 | 13 | 2 | 2 | 29 | |
| Epididymitis ... ... | ... | 8 | 8 | ... | ... | 39 | |
| Orchitis ... ... | 1 | 37 | 38 | ... | ... | 324 | |
| Hydrocele ... ... | 2 | 60 | 62 | ... | 2 | 168 | |
| Ulcer of penis ... ... | 1 | 20 | 21 | 1 | ... | 187 | |
| Cysts or other non-malignant tumours of the ovaries ... ... | ... | 17 | 17 | ... | ... | 2 | |
| Salpingitis ... ... | 1 | 13 | 14 | 2 | ... | 12 | |
| Abscess of the pelvis ... | | | | | | | |
| Uterine tumours (non-malignant) ... ... | ... | ... | ... | ... | ... | 12 | |
| Uterine hæmorrhage (non-puerperal) ... ... | 1 | ... | 1 | ... | ... | 12 | |
| A.—Metritis ... ... | 1 | ... | 1 | ... | ... | 68 | |
| B.—Other affections of the female genital organs : | 2 | 12 | 14 | 2 | ... | 225 | |
| Displacements of uterus | ... | 4 | 4 | ... | ... | 8 | |
| Amenorrhœa ... ... | ... | 1 | 1 | ... | ... | 396 | |
| Carried forward ... | 138 | 2,545 | 2,683 | 227 | 105 | 66,912 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 138 | 2,545 | 2,683 | 227 | 105 | 66,912 | |
| VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—*contd.* | | | | | | | |
| Dysmenorrhœa ... | ... | 4 | 4 | ... | ... | 191 | |
| Leucorrhœa ... ... | ... | ... | ... | ... | ... | 75 | |
| Diseases of the Breast (Non-puerperal): | | | | | | | |
| Mastitis ... ... | ... | 2 | 2 | ... | ... | 43 | |
| Abscess of breast ... | ... | 4 | 4 | ... | ... | 28 | |
| VIII—PUERPERAL STATE. | | | | | | | |
| A.—Normal labour ... | 7 | 268 | 275 | ... | 3 | 13 | |
| B.—Accidents of Pregnancy: | | | | | | | |
| (*a*) Abortion ... ... | ... | 32 | 32 | ... | 1 | 39 | |
| (*b*) Ectopic gestation ... | | | | | | | |
| (*c*) Other accidents of pregnancy ... ... | 2 | 60 | 62 | ... | 1 | 63 | |
| Puerperal hæmorrhage ... | ... | ... | ... | ... | ... | 2 | |
| Other accidents of parturition ... ... | 1 | 32 | 33 | 4 | ... | 9 | |
| Puerperal septicæmia ... | ... | 3 | 3 | 1 | ... | 7 | |
| Phlegmasia dolens ... | ... | ... | ... | ... | ... | 1 | |
| Puerperal eclampsia ... | ... | 3 | 3 | 1 | ... | ... | |
| Sequelæ of labour ... | ... | ... | ... | ... | ... | 1 | |
| Puerperal affections of the breast ... ... | ... | ... | ... | ... | ... | 3 | |
| IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES. | | | | | | | |
| Gangrene ... ... | ... | 5 | 5 | 2 | ... | 5 | |
| Boil— | ... | 18 | 18 | ... | ... | 286 | |
| Carbuncle ... ... | ... | 7 | 7 | 1 | ... | 131 | |
| Abscess— | 3 | 104 | 107 | 4 | 3 | 771 | |
| Whitlow ... ... | 1 | 7 | 8 | ... | ... | 360 | |
| Cellulitis ... ... | 4 | 71 | 75 | 1 | 1 | 426 | |
| A.—Tinea ... ... | ... | ... | ... | ... | ... | 296 | |
| B.—Scabies ... ... | 1 | 8 | 9 | ... | ... | 1,536 | |
| Other Diseases of the Skin— | ... | 5 | 5 | ... | ... | 537 | |
| (*a*) Erythema ... ... | ... | ... | ... | ... | ... | 3 | |
| (*b*) Urticaria ... ... | ... | ... | ... | ... | ... | 17 | |
| (*c*) Eczema ... ... | ... | 2 | 2 | ... | ... | 358 | |
| (*d*) Herpes ... ... | ... | 7 | 7 | ... | ... | 40 | |
| (*e*) Psoriasis ... ... | ... | ... | ... | ... | ... | 13 | |
| (*f*) Elephantiasis ... | 4 | 70 | 74 | 1 | 4 | 151 | |
| Carried forward ... | 161 | 3,257 | 3,418 | 242 | 118 | 72,317 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT-PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 161 | 3,257 | 3,418 | 242 | 118 | 72,317 | |
| IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES—*contd.* | | | | | | | |
| Other Diseases of the Skin—*continued.* | | | | | | | |
| (*g*) Myiasis ... ... | | | | | | | |
| (*h*) Chigoes ... ... | 1 | 5 | 6 | ... | 1 | 53 | |
| (*i*) Cutaneous Leishmaniasis ... ... | | | | | | | |
| (*j*) Ulcer ... ... | 24 | 355 | 379 | 5 | 29 | 8,653 | |
| X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS). | | | | | | | |
| Diseases of Bones : | | | | | | | |
| Osteitis ... ... | 1 | 25 | 26 | ... | ... | 355 | |
| Diseases of Joints : | | | | | | | |
| Arthritis ... ... | 3 | 41 | 44 | ... | 2 | 1,146 | |
| Synovitis ... ... | ... | 29 | 29 | ... | ... | 192 | |
| Other diseases of bones or organs of locomotion ... | 2 | 51 | 53 | 1 | ... | 2,111 | |
| XI—MALFORMATIONS. | | | | | | | |
| Malformations : | | | | | | | |
| Hydrocephalus ... | ... | ... | ... | ... | ... | 1 | |
| Hypospadias ... ... | | | | | | | |
| Spina bifida, etc. ... | | | | | | | |
| XII—DISEASES OF INFANCY. | | | | | | | |
| Congenital debility ... | ... | 1 | 1 | ... | ... | ... | |
| Premature birth ... ... | | | | | | | |
| Other affections of infancy | ... | 1 | 1 | ... | ... | 9 | |
| Infant neglect (infants of three months or over) ... | ... | ... | ... | ... | ... | 1 | |
| XIII—AFFECTIONS OF OLD AGE. | | | | | | | |
| Senility : | 1 | 9 | 10 | 6 | 1 | 29 | |
| Senile dementia ... | ... | ... | ... | ... | ... | 3 | |
| Carried forward ... | 193 | 3,774 | 3,967 | 254 | 151 | 84,870 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. Remaining in Hospital at end of 1929. | Total Admission. | Total Cases treated. | Deaths. | Remaining in Hospital at end of 1930. | OUT-PATIENTS. New Cases treated. | Subsequent Attendances. |
|---|---|---|---|---|---|---|---|
| Brought forward | 193 | 3,774 | 3,967 | 254 | 151 | 84,870 | |
| XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES. | | | | | | | |
| Suicide by poisoning | | | | | | | |
| Corrosive poisoning (intentional) | | | | | | | |
| Suicide by gas poisoning | | | | | | | |
| Suicide by hanging or strangulation | | | | | | | |
| Suicide by drowning | | | | | | | |
| Suicide by firearms | | | | | | | |
| Suicide by cutting or stabbing instruments | ... | 2 | 2 | ... | ... | ... | |
| Suicide by jumping from a height | | | | | | | |
| Suicide by crushing | | | | | | | |
| Other suicides | | | | | | | |
| Food poisoning : | | | | | | | |
| Botulism | ... | ... | ... | ... | ... | ... | |
| Attacks of Poisonous Animals : | | | | | | | |
| Snake bite | ... | 11 | 11 | ... | ... | 34 | |
| Insect bite | ... | 2 | 2 | ... | ... | 74 | |
| Other accidental poisonings | ... | ... | ... | ... | ... | 4 | |
| Burns (by fire) | 1 | 19 | 20 | 5 | 1 | 109 | |
| Burns (other than by fire) | ... | 6 | 6 | 1 | ... | 115 | |
| Suffocation (accidental) | | | | | | | |
| Poisoning by gas (accidental) | | | | | | | |
| Drowning (accidental) | ... | ... | ... | ... | ... | 2 | |
| Wounds (by firearms, war excepted) | 1 | 13 | 14 | 2 | ... | 11 | |
| Wounds (by cutting or stabbing instruments) | 3 | 40 | 43 | ... | ... | 1,269 | |
| Wounds (by fall) | ... | 17 | 17 | ... | ... | 517 | |
| Wounds (in mines or quarries) | | | | | | | |
| Wounds (by machinery) | ... | 5 | 5 | ... | ... | 9 | |
| Wounds (crushing, e.g. railway accidents, etc.) | ... | 4 | 4 | 1 | ... | 11 | |
| Injuries inflicted by animals, bites, kicks, etc. | 1 | 14 | 15 | 1 | 1 | 122 | |
| Wounds inflicted on active service | ... | ... | ... | ... | ... | 26 | |
| Executions of civilians by belligerents | | | | | | | |
| A.—Overfatigue | | | | | | | |
| B.—Hunger or thirst | ... | ... | ... | ... | ... | 1 | |
| Exposure to cold, frost-bite, etc. | | | | | | | |
| Carried forward | 199 | 3,907 | 4,106 | 264 | 153 | 87,174 | |

AFRICAN—*continued.*

| Diseases. | IN-PATIENTS. | | | | | OUT PATIENTS. | |
|---|---|---|---|---|---|---|---|
| | Remaining in Hospital at end of 1928. | Total Admission. | Total Cases treated | Deaths. | Remaining in Hospital at end of 1929. | New Cases treated. | Subsequent Attendances. |
| Brought forward ... | 199 | 3,907 | 4,106 | 264 | 153 | 87,174 | |
| XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—*contd.* | | | | | | | |
| Exposure to Heat : | | | | | | | |
| Heat stroke ... ... | | | | | | | |
| Sun stroke ... ... | | | | | | | |
| Lightning stroke ... ... | ... | ... | ... | ... | ... | 2 | |
| Electric shock ... ... | | | | | | | |
| Murder by firearms ... | | | | | | | |
| Murder by cutting or stabbing instruments ... | | | | | | | |
| Murder by other means ... | ... | ... | ... | ... | ... | 1 | |
| Infanticide (murder of an infant under one year) ... | | | | | | | |
| A.—Dislocation ... ... | ... | 6 | 6 | ... | 1 | 18 | |
| B.—Sprain ... ... | 1 | 23 | 24 | .. | ... | 450 | |
| C.—Fracture ... ... | 6 | 71 | 77 | 4 | 2 | 79 | |
| Other external injuries ... | 9 | 198 | 207 | 7 | 4 | 6,140 | |
| Deaths by violence of unknown cause ... ... | | | | | | | |
| XV—ILL-DEFINED DISEASES. | | | | | | | |
| Sudden death (cause unknown) ... ... | ... | 1 | 1 | 1 | ... | 1 | |
| A.—Diseases not already specified or ill-defined ... | | | | | | | |
| Ascites ... ... | 1 | 18 | 19 | 7 | 1 | 35 | |
| Œdema ... ... | ... | 12 | 12 | 2 | 1 | 174 | |
| Asthenia ... ... | 16 | 23 | 39 | 10 | 12 | 616 | |
| Shock ... ... | ... | ... | ... | ... | ... | 2 | |
| Hyper-pyrexia ... | ... | 1 | 1 | ... | ... | 11 | |
| B.—Malingering ... ... | ... | 4 | 4 | ... | ... | 4 | |
| Pyrexia of uncertain origin | 1 | 55 | 56 | ... | 29 | 93 | |
| No appreciable disease ... | 4 | 77 | 81 | ... | 1 | 163 | |
| Undiagnosed ... ... | ... | 9 | 9 | ... | ... | 12 | |
| Total ... | 237 | 4,405 | 4,642 | 295 | 204 | 94,975 | |

# Appendices.

## A—REPORT OF THE SURGICAL SPECIALIST, CONNAUGHT HOSPITAL.

There have been no alterations of importance either in the buildings, establishment, or method of running the surgical clinic at the Connaught Hospital.

The number of patients attending for treatment continues to increase as the figures for operation show, 761 in 1929 rising to 1,566 in 1930.

A certain number of new instruments and appliances have been added during the year but the financial situation did not permit of obtaining everything that was thought necessary.

Considering the frequent changes in staff and the lack of a permanent African personnel, the surgical clinic has functioned, I think, reasonably well. Miss McPetrie, the surgical sister during the year, has been of great help to me and her work in the theatre excellent. My ward master and anaesthetist Mr. Smith and my assistant Mr. Davies, have also supported me well.

Included in major work have been fifty-two cases of scrotal elephantiasis, these respond very well to operative treatment despite the bulk of some of them (the heaviest weighing some 90 lbs.) and there has been no mortality in the series. A certain number of patients with abdominal complaints were dealt with and cases of cancer were not rare—unfortunately both of these types generally arrive too late for effective treatment.

Statistics of operative work and notes of cases of interest are appended.

Q. STEWART,
*Surgical Specialist.*

## OPERATIONS AT THE CONNAUGHT HOSPITAL IN 1930.

| (*1*) *Abdominal:* | Cured. | Relieved. | Unrelieved. | Died. |
|---|---|---|---|---|
| Herniotomy—incisional ... ... | — | 1 | — | — |
| Herniotomy—umbilical ... ... | 1 | — | — | — |
| Herniotomy—epigastric ... ... | 1 | — | — | — |
| Herniotomy—inguinal ... ... | 237 | — | — | 1 |
| Herniotomy—strangulated inguinal | 8 | — | — | 3 |
| Partial gastrectomy ... ... | — | — | — | 1 |
| Gastro-enterostomy ... ... | 1 | 1 | — | — |
| Enterostomy ... ... ... | — | 1 | — | — |
| Enterectomy ... ... ... | 2 | — | — | — |
| Suturing of perforated small intestine | — | — | — | 1 |
| For volvulus of colon ... ... | — | — | — | 1 |
| Appendicectomy ... ... | 1 | — | — | — |
| Drainage of pelvic abscess ... | 2 | — | — | — |
| Ileo-colostomy ... ... | — | — | — | 1 |
| Exploratory laparotomy ... ... | — | 3 | 2 | 5 |
| Relief of obstruction by band ... | 1 | — | — | — |
| Excision of retro-peritoneal cyst ... | 1 | — | — | — |
| Splenectomy and Talma Morrison operation for cirrhotic liver ... | — | 1 | — | — |
| Aspiration of liver for liver abscess | 1 | 1 | — | 1 |
| Drainage of general peritonitis ... | — | — | — | 3 |
| Drainage of retro-peritoneal abscess | — | — | — | 1 |
| Aspiration of ascites ... ... | — | 2 | — | 1 |
| (2) *Ano-Rectal:* | | | | |
| Excision of fistula in ano ... | 3 | — | — | 1 |
| Excision of hæmorrhoids ... | 2 | — | — | — |
| Injection of hæmorrhoids ... ... | — | 7 | — | — |
| Sigmoidoscopy ... ... ... | 1 | — | 12 | — |
| Dilatation of rectal stricture ... | — | 3 | — | — |
| Opening of imperforate anus .. | 1 | — | — | — |

| (3) *Ear, Nose and Throat:* | Cured. | Relieved. | Unrelieved. | Died. |
|---|---|---|---|---|
| Excision of goundou ... ... | 1 | — | — | — |
| Caldwell Luc operation on antrum ... | 1 | — | — | — |
| Enucleation of tonsils ... ... | 5 | — | — | — |
| Curettage of adenoids ... ... | 7 | — | — | — |
| Schwartze's operation for mastoiditis | 2 | — | — | 1 |
| Excision of nasal polypus ... | 1 | — | — | — |
| Removal of foreign bodies in :— | | | | |
| (*a*) nose ... ... ... | 6 | — | — | — |
| (*b*) ear ... ... ... | 11 | — | — | — |
| (4) *Eyes:* | | | | |
| Needling of cataract ... ... | 1 | 1 | — | — |
| Extraction of cataract ... ... | 4 | 1 | — | — |
| Excision of eyeball ... ... | 6 | — | — | — |
| Excision of sarcoma ... ... | — | 1 | — | — |
| Excision of cyst of eyelid ... ... | 2 | — | — | — |
| For ectropion ... ... ... | 2 | — | — | — |
| Extraction of foreign bodies ... | 2 | — | — | — |
| Corneal section ... ... | — | 1 | — | — |
| (5) *Genito-Urinary (Male):* | | | | |
| Cystoscopy ... ... ... | — | — | 9 | — |
| Urethroscopy ... ... ... | — | — | 2 | — |
| Excision of scrotum for elephantiasis | 52 | — | — | — |
| Tapping of hydrocele ... ... | — | 6 | — | — |
| Radical cure of hydrocele ... | 85 | — | — | — |
| Tapping and injection of hydrocele ... | 20 | — | — | — |
| Suprapubic prostatectomy for hypertrophy ... ... ... | — | 1 | — | — |
| Suprapubic puncture of bladder ... | — | 2 | — | — |
| Suprapubic cystostomy for drainage of bladder ... ... ... | — | 4 | — | — |
| Excision of diverticulum of bladder ... | 1 | — | — | — |
| Dilatation of stricture ... ... | — | 108 | — | — |
| Excision of urethral sinuses ... | — | 2 | — | — |
| Plastic operation for penile fistula ... | — | 1 | — | — |
| Plastic operation for penile deformity | — | 1 | — | — |
| Vasostomy ... ... ... | 5 | — | — | — |
| Circumcision ... .. ... | 19 | — | — | — |
| For varicocele ... ... ... | 1 | — | — | — |
| Orchidectomy ... ... ... | 5 | — | — | — |
| Orchidopexy ... ... ... | 1 | — | — | — |
| Excision of ectopic kidney ... | 1 | — | — | — |
| Exploration of kidney ... ... | — | — | — | 1 |
| (6) *Gynæcological:* | | | | |
| Hysterectomy ... ... ... | 19 | — | — | 3 |
| Myomectomy ... ... ... | 7 | — | — | — |
| Curettage ... ... ... | 18 | — | — | — |
| Caesarean section ... ... | 2 | — | — | 2 |
| Excision of vulval elephantiasis ... | 2 | — | — | — |
| Gilliam's operation for retroflexion ... | 1 | — | — | — |
| Salpingo-oophorectomy ... ... | 2 | — | — | — |
| Opening of imperforate vagina ... | 1 | — | — | — |
| Plastic operation for vesico-vaginal fistula — — — | — | — | 2 | — |
| Transplantation of ureters for vesico-vaginal fistula ... ... | 2 | — | — | — |
| Plastic operation for recto-vaginal fistula | 1 | — | — | — |
| Excision of vaginal polypus ... | 1 | — | — | — |
| Excision of cyst of breast ... ... | 1 | — | — | — |
| Excision of breast for carcinoma ... | 1 | — | — | — |

| | Cured. | Relieved. | Unrelieved. | Died. |
|---|---|---|---|---|
| (7) *Head and Neck :* | | | | |
| Excision of sarcoma of skull | — | — | — | 1 |
| Excision of glands | 2 | — | — | — |
| Excision of epulis of jaw | 4 | — | — | — |
| Section of spinal accessory nerve for torticollis | — | — | 1 | — |
| Excision of mixed salivary tumours | 3 | — | — | — |
| For tongue tie | 3 | — | — | — |
| Thyroidectomy for goitre | 1 | — | — | — |
| Excision of epithelioma lip with glands | 1 | — | — | — |
| Excision of salivary cyst | 1 | — | — | — |
| Plastic operation lip | 1 | — | — | — |
| Drainage of cerebral abscess | — | — | — | 1 |
| Drainage of extradural abscess | 1 | 1 | — | — |
| (8) *Miscellaneous :* | | | | |
| Drainage of septic conditions | 204 | — | — | 3 |
| Excision of glands | 2 | — | — | 1 |
| Suture of wounds | 243 | — | — | — |
| Drainage of empyema | 3 | — | — | — |
| Extraction of teeth | 124 | — | — | — |
| Injection of varicose veins | 1 | — | — | — |
| Excision of aneurysms | 2 | — | — | — |
| Periarterial sympathectomy | — | 1 | — | — |
| Plating of aneurysm of thoracic aorta | — | — | — | 1 |
| Examination under anæsthesia | — | — | 7 | — |
| Aspiration of tubercular abscesses | — | 8 | — | — |
| (9) *Orthopædics :* | | | | |
| Reduction of fractures and separated epiphyses | 17 | — | — | 1 |
| Reduction of dislocations | 7 | — | 1 | — |
| Open operation for :— | | | | |
| (*a*) congenital dislocation of hip | 1 | — | — | — |
| (*b*) fractured tibia | 1 | — | — | — |
| Extension of fractures by means of pins | 10 | — | — | — |
| Arthroplasty of elbow joint | — | 1 | — | — |
| Drainage and sequestrectomy for osteomyelitis | 16 | — | — | 1 |
| Laminectomy | — | — | — | 1 |
| Drainage of arthritis | 3 | — | — | — |
| Cauterising for arthritis | — | 3 | — | — |
| Breaking down of adhesions in joint | 1 | 7 | 2 | — |
| Tenotomy for talipes | 1 | — | — | — |
| Amputation of leg | 5 | — | — | — |
| ,, toes | 6 | — | — | — |
| ,, arm | 2 | — | — | 1 |
| ,, fingers | 10 | — | — | — |
| Excision of scar contracture | 1 | — | — | — |
| Plaster cases | — | 14 | — | — |
| (10) *Skin and Subcutaneous Tissues :* | | | | |
| Excision of melanomas | — | 1 | 1 | — |
| Excision of epitheliomata | 2 | — | — | — |
| Excision of ulcers | 4 | — | — | — |
| Excision of keloids | 4 | — | — | — |
| Skin grafting | 18 | — | — | — |
| Removal of foreign bodies | 12 | — | — | — |
| Excision of sebaceous cysts | 7 | — | — | — |
| Excision of dermoid cysts | 2 | — | — | — |
| Excision of ganglia | 3 | — | — | — |
| Excision of granulomata | 1 | — | — | — |
| Excision of lipomata | 9 | — | — | — |
| Excision of fibromata | 3 | — | — | — |
| Total | 1,304 | 185 | 39 | 39 |

NOTE.—Of the 39 operations marked unrelieved 30 were diagnostic procedures.

Dilatations of stricture of the urethra are placed under the heading "Relieved" in all cases.

## OPERATIONS PERFORMED AT THE EUROPEAN HOSPITAL IN 1930.

| | | Cured. |
|---|---|---|
| For ingrowing toe nails ... | ... | 2 |
| Radical cure of hernia-inguinal | ... | 1 |
| Radical cure of hernia-femoral | ... | 1 |
| Appendicectomy ... | ... | 1 |
| Total | ... | 5 |

| Major Operations. | Minor Operations. | Percentage of Deaths. |
|---|---|---|
| 653 | 913 | 2·4 |

| | |
|---|---|
| Number of Operations in 1926 ... ... ... | 29 |
| " " 1927 ... ... ... | 257 |
| " " 1928 ... ... ... | 755 |
| " " 1929 ... ... ... | 761 |
| " " 1930 ... ... ... | 1,566 |

*Anæsthetics* :

| | |
|---|---|
| Spinal ... ... ... ... ... | 510 |
| Ethyl chloride ... ... ... ... | 130 |
| Chloroform ... ... ... ... ... | 211 |
| Local ... ... ... ... ... | 90 |
| Colonic ether ... ... ... ... ... | 3 |
| Total ... | 944 |

| | |
|---|---|
| Intravenous injections given in wards ... ... | 391 |
| Fractures treated in wards ... ... ... | 48 |

## LIST OF SURGICAL OPERATIONS PERFORMED ELSEWHERE REPORTED BY MEDICAL OFFICERS.

| STATIONS. | Number. | Cured. | Relieved. | Unrelieved. | Died. |
|---|---|---|---|---|---|
| Kissy ... ... ... ... | 17 Minor operations were done. | | | | |
| Makeni ... ... ... ... | 34 | 28 | 6 | — | — |
| Bonthe ... ... ... ... | 22 | 17 | 5 | — | — |
| Bo ... ... ... ... | 40 | 33 | 3 | — | 4 |
| Daru ... ... ... ... | 40 | 36 | 1 | — | 3 |
| Moyamba ... ... .. ... | 13 Operations were performed during the year all were successful. | | | | |
| Pujehun ... .. ... ... | 15 Operations were performed. | | | | |
| Kabala ... ... ... ... | 144 | do. | do. | | |
| Kaiyima ... ... ... ... | Surgical operations performed (not detailed). | | | | |
| Sumbuya ... ... ... ... | | do. | do. | do. | |
| Kenema ... ... ... ... | | do. | do. | do. | |
| Total ... ... | 325 | 114 | 15 | — | 7 |

## *B*—MATERNITY WARD—CONNAUGHT HOSPITAL.

There were 363 patients admitted of which number 260 were cases of labour and 103 complicated pregnancies. Of the labour cases 98 were primiparæ and 162 multiparæ, and they gave birth to 274 children—143 males and 131 females. There was one case of triplets, one having been born before admission and the two babies born in the ward were born dead. There were sixteen cases of twin labour and in three of these cases one child had been born before admission to hospital, so that these cases gave birth to twenty-nine children.

The result of the twin labours as regards the children was as follows:—twenty-four living children and five dead born. The following table shows the presentation in each case.

5 Vertex and vertex—all alive.
2 Vertex and breech—all alive.
2 Breech and vertex (1) First child died—(2) Second child born dead-face, two alive.
1 Vertex and transverse—
  (*a*) Forceps alive
  (*d*) Podalic version dead born. Flat pelvis.
3 Breech and breech—four alive in one case both children were born dead-premature.

Of the three cases in which the one child was born before admission two were vertex and one was a breech—all the children lived.

There were fifty-four cases of abnormal labour, and the following table gives details of the cases, each case being designated under its most outstanding abnormality.

| Designation. | Number. | Remarks. |
|---|---|---|
| Torn Perinæum | 14 | Ten cases sutured. Seven primiparæ and three multiparæ. |
| Transverse presentation | 1 | Prolapsed arm and fundis. Internal podalic version. Full time macerated fœtus. |
| Twins | 16 | See above. |
| Triplets | 1 | One child born before admission. Two female premature children born dead. |
| Premature | 6 | Two alive, three born dead—one macerated, one died 5 minutes after birth. |
| Ante and post partum eclampsia | 2 | One child born dead. Mother recovered. One Forceps. Torn perinæum. Mother and child did well. |
| Persistent occipito posterior | 1 | Forceps alive. |
| Breech | 5 | One extended arms born dead. One footling born dead. One premature died. |
| Albuminuria | 2 | One still born |
| Uterine fibroid | 1 | Fibroid left lower uterine segment. |
| Forceps | 4 | Two alive—two died. One was brow presentation. |
| Caesarian section | 1 | Alive. Transferred to surgical ward. |
| Total ... | 54 | |

There was one death in a case of labour.

The next table gives details of the 103 complicated pregnancies, i.e. cases admitted to hospital during pregnancy or the puerperium, but not being delivered in hospital.

| | |
|---|---|
| False pains ... ... ... ... ... | 15 |
| Observation ... ... ... ... ... | 27 |
| Albuminuria ... ... ... ... ... | 5 |
| Avitaminosis ... ... ... ... ... | 6 |
| Abortion Complete ... ... ... ... ... | 7 |
| ,, Incomplete ... ... ... ... | 6 |
| ,, Threatened ... ... ... ... | 8 |
| Cystitis ... ... ... ... ... ... | 1 |
| Pyrexia ... ... ... ... ... ... | 2 |
| Malaria ... ... ... ... ... ... | 4 |
| Hyperemesis Gravidarum ... ... ... ... | 4 |
| Oedema legs (Pressure) ... ... ... ... | 2 |
| Conjunctival haemorrhage ... ... ... ... | 1 |
| Hydatidiform mole ... ... ... ... | 1 |
| Tetanus ... ... ... ... ... ... | 1 |
| Uterine Inertia ... ... ... ... ... | 1 |
| Ante-partum haemorrhage ... ... ... ... | 1 |
| Retained placenta ... ... ... ... ... | 3 |
| Palpitation ... ... ... ... ... | 1 |
| Dysentery ... ... ... ... ... ... | 1 |
| Metrorrhagia ... ... ... ... ... | 1 |
| Puerperium observation ... ... ... ... | 1 |
| Injury Vulva ... ... ... ... ... | 1 |
| Lumbago ... ... ... ... ... ... | 1 |
| Vaginitis ... ... ... ... ... ... | 1 |
| Bronchitis ... ... ... ... ... ... | 1 |
| Total ... ... ... | 103 |

There were four deaths among these cases:—

1. Tetanus
2. Uterine inertia
3. Ante-partum haemorrhage
4. Cardiac failure; pregnancy.

Of the 274 babies born in the ward twenty-nine were lost, six still-born, fourteen dead-born, and nine died after birth.

| Still-birth. | Dead-birth. | Died after birth. |
|---|---|---|
| 1 Transverse<br>1 Albuminuria<br>4 No feature | 5 Twins<br>2 Triplets<br>3 Premature<br>1 Macerated<br>2 Breech<br>1 Eclampsia | 3 Premature<br>2 Forceps<br>1 No feature |

The Infant Mortality, including dead and still-births was 106 per 1,000.

The Maternal Mortality was 1·4 per cent.

A. CATHCART,
*Medical Officer.*

## *C*—THE EFFECT OF STREET DRAINAGE ON THE NUMBER OF ANOPHELINES OCCURRING IN FREETOWN.

In March, 1930, the Sir Alfred Lewis Jones Research Laboratory was approached with regard to the estimation of the possible effects of the proposed drainage on the number of mosquitoes occurring in the western area, and on the malaria infection rate of the children. The investigation was commenced in June, 1930, and is still being carried out, so that it is impossible to draw any conclusions regarding the effects of these antimalarial measures until the complete report is available. The following facts of general interest have been elicited, but some of them may be modified by later observations.

Over one thousand five hundred rooms distributed amongst six hundred houses were examined once or oftener. Macdonald in 1926 as a result of examining over 1,000 children came to the conclusion that the portion of the town at present being canalized, represented the malaria hyperendemic area of Freetown. In spite of this fact the number of mosquitoes caught in this district during the past twelve months has been surprisingly low. That this scarcity of mosquitoes is due to reduction in their numbers since the observations of Ross and Stephens in 1900 (*circa*) has been proved by a control survey carried out at Kissy, an uncanalized suburb of Freetown. This survey showed that a tremendous improvement has been effected in Freetown since 1900, for during the wet season of 1930 the anopheline rate per room in Freetown was only 0·32, whereas in Kissy at a similar period of the year it was six times as great. On the other hand the infection rate of such anophelines as do occur, is certainly high for although adequate figures are not yet available it appears probable that at least seven per cent. of the anophelines occurring in the houses are infected with malaria and certainly not less than *two per cent.* with filaria.

The investigation has revealed the important fact that whereas in the suburbs of Freetown *A. gambiae*, *A. funestus* and *A. nili* occur in the houses, only *A. gambiae* was encountered in the area being canalized in Freetown.

Very few culicines were captured in the houses examined in the early morning but this is probably not a true index of the numbers that actually occur.

R. M. GORDON.

## *D*—SCHOOL MEDICAL SERVICE, 1930.

This year all children up to the age of eight years and those of twelve years were examined in all Government supported schools of Freetown and the Colony.

The numbers are as follows:—

### TABLE I.

*Schools Examined with Numbers.*

| | | |
|---|---|---|
| *Freetown*— | Bathurst Street | 77 |
| | Samaria | 27 |
| | Tabernacle | 33 |
| | Ebenezer | 47 |
| | Model | 180 |
| | Bethel | 80 |
| | Christ Church | 86 |
| | Holy Trinity | 183 |
| | Brookfields | 56 |
| | St. Joseph's Convent | 209 |
| | St. Edward's | 117 |
| | St. Anthony's | 104 |
| | Buxton | 131 |
| | Cathedral | 138 |
| | Madras Islamia | 17 |
| | ,, Amaria | 73 |
| | ,, Sulaimania | 63 |
| *Rural*— | Regent | 104 |
| | Bathurst | 32 |
| | Gloucester | 80 |
| | Lumley | 53 |
| | Goderich | 41 |
| | Hamilton | 34 |
| | Wilberforce | 106 |
| | Congo Town | 35 |
| | Cline Town | 55 |
| | Murray Town | 96 |
| | Allen Town | 18 |
| | Aberdeen | 44 |
| | Kissy (Wesleyan) | 45 |
| | Kissy (Church of England) | 63 |
| | Wellington | 57 |
| | Hastings | 52 |
| | Waterloo | 117 |
| | Rokell | 18 |
| *Protectorate*— | Segbwema | 48 |
| | Bunumbu | 65 |
| | Bandajuma | 13 |
| | Moyamba Amalgamated | 45 |
| | ,, St. Joseph's Convent | 49 |
| | ,, Roman Catholic Boys | 16 |
| | ,, Girls Boarding | 132 |
| | Total | 3,039 |

Parents were invited to attend the inspection and they were able to give information as to the previous medical history of their children. This was recorded on the Health Record form, along with the results of clinical inspection, and the height, weight and temperature of each child. These forms were filled up in duplicate for each child, one of which was left in each school in charge of the headmistress.

From these records it has been possible to gain valuable information as to the most prevalent diseases from which the children suffer. Tables are annexed showing the percentages, incidence of malaria, avitaminosis, scabies, worms, jigger flea infection and malnutrition in each school.

These tables are interesting. They provide a basis for thorough treatment of the diseases, as one can discover at a glance in which schools disease of one kind or another is most prevalent.

*Malaria.*—A study of the tables shows that malaria is the most serious disease to be dealt with among the school children. The spleen rate and temperature rate for different age groups is recorded for each school, also the parasite rate in some schools.

*Spleen Rate.*—The spleen rate has been recorded as the percentage number of spleens palpable below the costal margin, by bimanual examination.

*Temperature Rate.*—The temperature rate has been recorded as the percentage number of temperatures of 99° and over; the temperature being taken under the axilla.

*Parasite Rate.*—The parasite rate is recorded as the percentage number of children found with parasites in the peripheral blood; one thin blood film was taken in each case.

It will be noted that on the whole the spleen rate is much higher in the rural schools; that in many of these schools this rate reaches 100 per cent. particularly in the youngest age group, that of four to six years. Correspondingly the temperature rate is highest for these schools; the temperature rate, however, shows considerable variation. This may partly be accounted for by the fact that in addition to malaria some schools were suffering from outbreaks of whooping cough, mumps, and bronchitis at the time of inspection. In schools that were attacked by no other fertile disease there is a good deal of evidence to show that a low spleen rate and temperature rate correspond and vice versa.

This points to the fact that in the absence of other febrile diseases malaria causes the high temperature rate among the school children.

Again, in Table IV these rates are recorded for the urban schools in the three wards of Freetown. It will be noted that the rates are highest in the West Ward of Freetown lowest in the Central Ward. It is an interesting fact that in this ward, though St. Joseph's and St. Edward's schools are practically in the same street, the incidence of malaria in St. Edward's school is so much higher. It points to the fact that children attending this school come from a badly infected area of the town.

A further comparison, that of the average annual attendance in the schools, has been recorded in this connection. Of the urban schools the Central Ward have the highest average attendance—that is, in the ward where malaria incidence is lowest. Further, the average attendance is highest in the urban schools, as compared to the colony schools. It is a significant fact however that out of fifty-one schools, urban and rural, standard and infant only six reach an average attendance of 80 per cent. and over.

*Scabies.*—The incidence of this contagious skin disease is fairly high in all schools but particularly in the rural schools. It is a complaint easily recognized by teachers or school nurse, as it begins on the hands and wrists of the children. The disease spreads through handling books and writing materials. Unless infected books and writing materials are burnt when the school children are being treated for this complaint, it will continue to spread. It would be advisable that infected children should be treated class by class at the same time, for this complaint, as the clean and the healthy often sit side by side at the same desk.

*Jigger Flea Infection.*—Owing to the patient supervision of school teachers, particularly in the urban schools, this affection is comparatively rare. One must go to Hamilton and some of the Protectorate day schools to find a high rate of infestation.

*Avitaminosis.*—This condition ably described by Dr. Wright, is by no means rare among the children in the urban schools. In many of the rural schools it is not found. In children it is characterized by white patches at the angles of the mouth which spread on to the dorsal two-thirds of the tongue, in severe cases, and resembles leukoplabia. Usually the papillae at the tip of the tongue are left free, but they look raw, and the patient often complains of a sore tongue. Blepharitis and a thin nasal discharge are sometimes concomitant symptoms. Well nourished children are as liable to attack as poorly nourished children. The condition persists sometimes for years. Mild cases respond to prolonged treatment with large doses of Cod Liver Oil: the most rapid cures are affected with Cod Liver Oil and fresh unfermented palm juice. The vitamin B in the yeast contained in the palm juice is no doubt the beneficial agent. It points to the fact that this is a diet deficiency disease. Diet of town children is too often confined to large meals of rice and foofoo without the addition of fresh animal or vegetable food. The rarity of this disease in the rural schools shows that the children have a more balanced diet.

*Worm Infection.*—Evidence gained from examination of 612 specimens of faeces shows that the rural and Protectorate schools are more affected with worm infection than the urban schools. The latter however are by no means exempt. The table shows that round-worm infection is more prevalent in the Mohammedan schools in Freetown. Hookworm infection exists and is prevalent in one urban school. It is prevalent in the Protectorate schools, and is sporadic in some Colony schools.

*Children below average Weight and Nutrition.*—These figures are interesting. Broadly speaking there are two main factors which cause loss of weight in a child. Persistent ill health due to some disease of long duration, or neglect—e.g., lack of food, lack of rest, lack of hygiene to the body. The table shows that the percentage of such children is higher in the urban schools. One outstanding figure attracts attention—e.g. at St. Anthony's 86 per cent. of children are in this category. It must be remembered that the poorest children of the town attend this school. They are often in dire need of both food and clothing.

Again in the other schools in Freetown, many badly nourished neglected children will be found to be those who are living with guardians. Further investigation is required into the home life of such children. In any case when a child becomes so emaciated as to the persistently below weight, either because of ill health or neglect, the parent or guardian becomes culpable.

*Vaccination.*—Following on school inspection, lists of unvaccinated children in each school were sent to the Medical Officer of Health and arrangements were made to vaccinate the children by a dispenser. 2,430 vaccinations were performed and of these 1,403 were successful. It is hoped that year by year the percentage of successful vaccinations will increase.

*Latrine Accommodation.*—A detailed report on this subject is appended. Following on my half-yearly report, on the condition of the latrines, the Director of Education issued a circular to all school managers, stating what were the requirements of the Education code—e.g. that school latrines should be provided at the rate of 5 per cent. of scholars. A warning was also given that non-compliance with this order could end in prosecution.

I am glad to be able to report that some schools have erected new latrines, e.g. St. Joseph's, St. Edward's and Kissy (Church of England). Samaria has provided new lids and Wilberforce has white-washed the exterior and interior of the building. Apart from these schools, no effort has been made on the part of other school managers to remedy their defects. It will be noted from the table that only seven out of thirty-three schools comply with the requirements of the present education code; that thirteen schools out of thirty-three have latrine accommodation at the rate of 2½ per cent., and that seven out of thirty-three have no latrine accommodation at all.

The report of the committee on school sanitation 1928, suggested that "After a reasonable period the Medical Officer of Health should take action to deal with insanitary latrines as in the case of the ordinary householder." There is surely ample proof that the absence and inadequate supply of latrine accommodation, is already dangerous and injurious to the health of the present school child.

*The School Clinic.*—This clinic was held at the Connaught Hospital on Monday and Wednesday afternoons throughout the school terms.

At the school inspection, sick children were given a note to their parents, stating from what disease the child suffered and inviting their attendances at the clinic. In addition to this the school nurse was sent round to the schools in Freetown. She took the temperatures of the children and examined them for external skin diseases, jiggers, cuts and sores. Teachers reported sick children to her and they were given a note to attend the clinic. Altogether, 1,519 children were treated at the clinic and there were 2,329 attendances. There were 1,167 attendances for malaria treatment alone. The other more common diseases treated were scabies, bronchitis, avitaminosis and worms. Cuts and sores formed a small proportion of diseases treated. As many of these were small septic wounds of long duration, it was decided to issue a first aid box to each school. These were made out of old biscuit tins; calico was issued to each school to make the children take an interest and sew their own bandages; an ounce of picric lotion and an ounce of sulphur ointment were provided for each box. It is hoped that teachers will render immediate first aid to small cuts at school and thus facilitate cleanliness and more rapid healing of the wounds.

*Comment on the year's work.*—A review of the year's statistics on the health of the school children of Freetown points to the fact that malaria is the disease which causes the most ill health among the children. In view of its great prevalence it would seem that some standard prophylactic treatment is called for in all the schools. It is useless, however, to inaugurate treatment for this disease, prophylactic or curative, for over three-thousand school children unless it is part of a big scheme of malaria control. The bedrock of malaria control is mosquito control. Mosquito control comes first before treatment on a large scale.

It is my considered opinion, that the children most severely infected with malaria, (i.e. those with grossly enlarged spleens and high temperature) come from homes inhabited by infected mosquitoes. It was a significant fact that at the clinic the most severely infected children, after about one month's interval, returned with a renewed attack of high fever. They must have been reinfected with malaria. Again, individual records of children in each school show that though they live in the same street, one child will be severely affected with malaria and another go free of infection.

These facts form one basis of mosquito control. If the addresses of the worst cases of malaria in the schools were given to the sanitary inspectors, these homes, i.e. houses and compounds, could be investigated and mosquitoes eradicated from them. Needless to say, several visits would be paid to these homes throughout the year. In this way all young children in each badly infected home would be saved from reinfection and child mortality in Freetown would be appreciably lowered.

## TABLE II.

*Malaria Incidence in Schools of Freetown, the Colony and Protectorate.*

| SCHOOL. | Spleen rate per cent. | | | | Parasite rate per cent. |
|---|---|---|---|---|---|
| | Age 4-6. | 6-8. | 4-8. | 12. | |
| URBAN: | | | | | |
| Holy Trinity | 38 | 54 | 45 | 23 | 16 |
| Bethel | 58 | 65 | 51 | — | — |
| Bathurst Street | 27 | 29 | 27 | — | — |
| St. Joseph's Convent | 52 | 42 | 46 | 7 | 10 |
| Government Model | 38 | 15 | 22 | 18 | 19 |
| Buxton | 80 | 67 | 74 | 67 | — |
| Brookfields | 56 | 63 | 60 | — | 14 |
| St. Edward's | 83 | 50 | 55 | 52 | — |
| Cathedral | 37 | 48 | 44 | 62 | — |
| Ebenezer | — | — | — | 10 | — |
| Tabernacle | 20 | 60 | 33 | — | — |
| Christ Church | 34 | 45 | 40 | 50 | 8 |
| Samaria | 56 | 63 | 60 | — | — |
| St. Anthony's | 84 | 86 | 85 | 40 | — |
| Madrasa Islamia | — | — | — | 13 | 18 |
| ,, Amaria | 53 | 54 | 54 | 33 | 9 |
| ,, Sulaimania | 53 | 39 | 47 | — | 23 |
| RURAL: | | | | | |
| Congo Town | 67 | 67 | 67 | 100 | 42 |
| Cline ,, | 53 | 55 | 54 | — | 18 |
| Murray ,, | 82 | 90 | 80 | 73 | — |
| Aberdeen | 100 | 89 | 90 | 25 | — |
| Wilberforce | 44 | 48 | 46 | 44 | — |
| Lumley | 100 | 93 | 96 | — | 13 |
| Hamilton | 100 | 70 | 84 | 14 | 11 |
| Goderich | 100 | 63 | 76 | — | 15 |
| Kissy (Church of England) | 85 | 96 | 91 | 100 | 32 |
| Kissy (Wesleyan) | 100 | 100 | 100 | 71 | — |
| Wellington | 100 | 79 | 88 | 62 | — |
| Hastings | 86 | 81 | 84 | 100 | — |
| Waterloo | 88 | 76 | 81 | 35 | — |
| Allen Town | 100 | 85 | 88 | 100 | — |
| Gloucester | 56 | 70 | 63 | — | 5 |
| Bathurst | 50 | 67 | 53 | — | 13 |
| Regent | 78 | 82 | 79 | 54 | 7 |
| Rokelle | 80 | 100 | 94 | 100 | — |
| PROTECTORATE: | | | | | |
| Bunumbu (Day and Central) | — | 100 | 100 | 50 | 5 |
| St. Joseph's, Moyamba | — | 86 | 86 | — | 37 |
| Girls' Boarding, Moyamba | — | 80 | 80 | 56 | 7 |
| Roman Catholic Boys', Moyamba | 100 | 71 | 75 | — | — |
| Amalgamated Day School, Moyamba | 100 | 86 | 87 | 50 | 42 |
| Bandajuma | 100 | 100 | 100 | — | — |
| Segbwema (Boys and Girls) | 73 | 93 | 89 | 33 | 45 |

## TABLE III.

*Malaria Incidence in Schools of Freetown, the Colony and Protectorate.*

| School. | Temperate rate per cent. | | | |
|---|---|---|---|---|
| | Age 4-6. | 6-8. | 4-8. | 12. |
| URBAN : | | | | |
| Holy Trinity ... ... ... | 8 | 17 | 8 | 18 |
| Bethel ... ... ... | 32 | 19 | 25 | — |
| Bathurst Street ... ... | 28 | 17 | 22 | — |
| St. Joseph's Convent ... ... | 39 | 55 | 48 | 20 |
| Government Model ... ... | 38 | 19 | 25 | 21 |
| Buxton ... ... ... | 59 | 54 | 56 | 50 |
| Brookfields ... ... ... | 12 | 31 | 23 | — |
| St. Edward's ... ... ... | 58 | 59 | 59 | 62 |
| Cathedral ... ... ... | 79 | 59 | 67 | 42 |
| Ebenezer ... ... ... | — | — | — | 50 |
| Tabernacle ... ... ... | 50 | 80 | 60 | 100 |
| Christ Church ... ... | 27 | 19 | 23 | — |
| Samaria ... ... ... | 12 | 31 | 23 | — |
| St. Anthony's ... ... ... | 34 | 48 | 40 | 60 |
| Madrasa Islamia ... ... | — | — | — | 47 |
| ,, Amaria ... ... | 53 | 46 | 49 | 67 |
| ,, Sulaimania ... ... | 58 | 43 | 52 | — |
| RURAL : | | | | |
| Congo Town ... ... ... | 67 | 55 | 62 | — |
| Cline ,, ... ... ... | 53 | 61 | 57 | — |
| Murray ,, ... ... ... | 50 | 56 | 54 | 50 |
| Aberdeen ... ... ... | 50 | 81 | 80 | — |
| Wilberforce ... ... ... | 39 | 33 | 36 | 44 |
| Lumley ... ... ... | 80 | 57 | 67 | 100 |
| Hamilton ... ... ... | — | 10 | 5 | — |
| Goderich ... ... ... | 50 | 58 | 55 | — |
| Kissy (Church of England) ... | 65 | 54 | 59 | 50 |
| Kissy (Wesleyan) ... ... | 100 | — | 50 | 63 |
| Wellington ... ... ... | 90 | 76 | 82 | 62 |
| Hastings ... ... ... | 43 | 62 | 49 | 100 |
| Waterloo ... ... ... | 62 | 71 | 67 | 65 |
| Allen Town ... ... ... | 75 | 77 | 76 | 100 |
| Gloucester ... ... ... | 62 | 52 | 58 | — |
| Bathurst ... ... ... | 69 | 67 | 68 | — |
| Regent ... ... ... | 55 | 54 | 55 | 69 |
| Rokelle ... ... ... | 60 | 73 | 69 | 50 |
| PROTECTORATE : | | | | |
| Bunumbu (Day and Central) ... | — | — | — | — |
| St. Joseph's, Moyamba ... ... | — | 43 | 43 | 25 |
| Girls' Boarding, Moyamba ... | — | — | — | 25 |
| Roman Catholic Boys', Moyamba ... | 50 | 64 | 62 | — |
| Amalgamated Day School, Moyamba | — | 43 | 37 | 33 |
| Bandajuma ... ... ... | — | — | — | — |
| Segbwema ... ... ... | — | 20 | 16 | 33 |

## TABLE IV.

*Malaria Incidence in schools in the three wards of Freetown.*

| School. | Spleen rate per cent. | | | | Temperature rate per cent. | | | | Parasite rate per cent. | Average annual attendance per cent. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Age 4-6. | 6-8. | 4-8 | 12. | 4-6. | 6-8. | 4-8. | 12. | | |
| CENTRAL WARD: | | | | | | | | | | |
| St. Joseph's Convent ... | 52 | 42 | 46 | 7 | 39 | 55 | 48 | 20 | 10 | 77 |
| Cathedral ... ... | 37 | 48 | 44 | 62 | 79 | 59 | 67 | 62 | — | 72 |
| St. Edward's ... ... | 83 | 50 | 55 | 52 | 58 | 59 | 59 | 62 | — | 79 |
| Ebenezer ... ... | — | — | — | 10 | — | — | — | 50 | — | 70 |
| Tabernacle ... ... | 20 | 60 | 33 | — | 50 | 80 | 60 | 100 | — | 65 |
| Government Model ... | 38 | 15 | 22 | 18 | 38 | 19 | 25 | 21 | 19 | 79 |
| Bathurst Street ... | 27 | 29 | 27 | — | 28 | 17 | 22 | — | — | 70 |
| Samaria ... ... | 56 | 63 | 60 | — | 12 | 31 | 23 | — | — | 76 |
| EAST WARD: | | | | | | | | | | |
| Holy Trinity ... ... | 38 | 54 | 45 | 23 | 8 | 17 | 8 | 18 | 16 | 67 |
| Bethel ... ... | 58 | 65 | 51 | — | 32 | 19 | 25 | — | — | 66 |
| Madrasa Islamia ... | — | — | — | 13 | — | — | — | 47 | 18 | 68 |
| ,, Amaria ... | 53 | 54 | 54 | 33 | 53 | 46 | 49 | 67 | 9 | 85 |
| ,, Sulaimania ... | 53 | 39 | 47 | — | 58 | 43 | 52 | — | 23 | 74 |
| Cline Town ... ... | 53 | 55 | 54 | — | 53 | 61 | 57 | — | 18 | 80 |
| WEST WARD: | | | | | | | | | | |
| Buxton ... ... | 80 | 67 | 74 | 67 | 59 | 54 | 56 | 50 | — | 80 |
| Christ Church ... ... | 34 | 45 | 40 | 50 | 27 | 19 | 23 | — | 8 | 75 |
| Brookfields ... ... | 56 | 63 | 60 | — | 12 | 31 | 23 | — | 14 | 69 |
| St. Anthony's ... ... | 84 | 86 | 85 | 40 | 34 | 48 | 40 | 60 | — | 58 |

## TABLE V.

*School Attendance, 1930.*

| School | Percentage average quarterly Attendance. | | | | Percentage Average Annual Attendance. |
|---|---|---|---|---|---|
| | March. | June. | Sept. | Dec. | |
| URBAN—STANDARDS : | | | | | |
| St. Anthony's ... ... | 63 | 65 | 60 | 56 | 41 |
| Buxton ... ... ... | 78 | 80 | 76 | 78 | 78 |
| Cathedral ... ... ... | 80 | 78 | 72 | 84 | 78 |
| Ebenezer ... ... ... | 73 | 75 | 63 | 70 | 70 |
| St. Edward's ... ... | 80 | 72 | 75 | 80 | 74 |
| Islamia .. ... ... | 78 | 64 | 63 | — | 68 |
| St. Joseph's ... ... | 66 | 63 | 70 | 64 | 66 |
| Model ... ... ... | 86 | 83 | 80 | 83 | 83 |
| Samaria ... ... ... | 79 | 75 | 74 | — | 76 |
| Holy Trinity ... ... | 76 | 78 | 70 | 73 | 74 |
| INFANTS : | | | | | |
| Amaria ... ... ... | 99 | 86 | 70 | — | 85 |
| St. Anthony's ... ... | 67 | 56 | 59 | 50 | 58 |
| Bathurst Street ... ... | 68 | 66 | 75 | — | 70 |
| Bethel ... ... ... | 70 | 65 | 57 | 74 | 66 |
| Brookfields ... ... | 66 | 64 | 69 | 78 | 69 |
| Buxton ... ... ... | 84 | 82 | 76 | 79 | 80 |
| Cathedral ... ... | 75 | 72 | 69 | 73 | 72 |
| Cline Town ... ... | 89 | 77 | 73 | — | 80 |
| St. Joseph's A. ... ... | 71 | 64 | 71 | 79 | 71 |
| St. Joseph's B. ... ... | 83 | 80 | 83 | 92 | 84 |
| Christ Church ... ... | 73 | 69 | 78 | 81 | 75 |
| Model ... ... ... | 77 | 76 | 79 | 84 | 79 |
| Sulaimania ... ... | 75 | 75 | 70 | 77 | 74 |
| Tabernacle ... ... | 69 | 67 | 62 | 64 | 65 |
| Holy Trinity ... ... | 68 | 64 | 63 | 72 | 67 |
| St. Edward's ... ... | 82 | 77 | 79 | 79 | 79 |
| RURAL : | | | | | |
| Aberdeen ... ... | 64 | 56 | 54 | 58 | 58 |
| Allen Town ... ... | — | 69 | 60 | 63 | 64 |
| Bathurst ... ... ... | 66 | 73 | 69 | 65 | 68 |
| Benguema ... ... | 73 | 64 | 56 | — | 64 |
| Congo Town ... ... | 70 | 45 | 50 | — | 55 |
| Dublin ... ... ... | 54 | 54 | 53 | — | 54 |
| Goderich ... ... ... | — | — | 63 | 60 | 61 |
| Gloucester .. ... | 85 | 82 | 78 | 87 | 83 |
| Hamilton ... ... | 58 | 77 | 74 | — | 70 |
| Hastings ... ... ... | 75 | 70 | 68 | 67 | 70 |
| Kent ... ... ... | 60 | 73 | 73 | 57 | 66 |
| Kissy ... ... ... | 80 | 78 | 69 | — | 76 |
| Murray Town ... ... | 71 | 74 | 69 | 74 | 72 |
| Newton ... ... ... | 49 | 48 | 39 | 44 | 45 |
| Regent ... ... ... | 77 | 67 | 70 | 74 | 72 |
| Ricketts ... ... ... | 35 | 91 | 58 | 36 | 55 |
| Rokelle ... ... ... | 67 | 62 | 57 | — | 62 |
| Russell ... ... ... | 63 | 64 | 58 | 57 | 60 |
| Songo Town ... ... | 60 | 67 | 61 | — | 63 |
| Sussex ... ... ... | 66 | 71 | 65 | — | 67 |
| Tombo ... ... ... | 79 | 57 | 50 | 55 | 60 |
| Waterloo ... ... ... | 67 | 55 | 51 | 62 | 59 |
| Wellington ... ... | 58 | 62 | 53 | — | 58 |
| Wilberforce ... ... | 77 | 74 | 67 | 71 | 72 |
| York ... ... ... | 64 | 57 | 61 | — | 61 |

Column marked—Returns not available. Figures reckoned from number on the roll and average quarterly attendance during the year.

## TABLE VI.

*Incidence of Scabies and Jigger-flea infection in Schools of Freetown, the Colony and Protectorate.*

| School. | Total number Examined. | Infection rate per cent. | |
|---|---|---|---|
| | | Scabies. | Jiggers. |
| URBAN : | | | |
| Holy Trinity ... ... | 183 | 17 | 1 |
| Bethel ... ... ... | 80 | 10 | — |
| Bathurst Street ... ... | 77 | 28 | — |
| St. Joseph's Convent ... | 209 | 18 | — |
| Government Model ... | 180 | 10 | — |
| Buxton ... ... ... | 131 | 22 | 1 |
| Brookfields ... ... | 56 | 16 | — |
| St. Edward's ... ... | 117 | 29 | 2 |
| Cathedral ... ... | 138 | 23 | — |
| Ebenezer ... ... | 47 | 25 | — |
| Tabernacle ... .. | 33 | 21 | — |
| Christ Church ... ... | 86 | 22 | 1 |
| Samaria ... ... ... | 27 | 27 | — |
| St. Anthony's ... ... | 104 | 2 | — |
| Madrasa Islamia ... ... | 17 | 29 | — |
| ,, Amaria ... ... | 73 | 31 | 1 |
| ,, Sulaimania ... | 63 | 21 | 1 |
| RURAL : | | | |
| Congo Town .. ... | 35 | 20 | — |
| Cline ,, ... ... | 55 | 38 | 2 |
| Murray ,, ... ... | 96 | 34 | 3 |
| Aberdeen ... ... | 44 | 27 | — |
| Wilberforce ... ... | 106 | 23 | 1 |
| Lumley ... ... ... | 53 | 23 | 7 |
| Hamilton ... ... | 34 | 94 | 25 |
| Goderich ... ... ... | 41 | 22 | — |
| Kissy (Church of England) ... | 63 | 43 | 1 |
| Kissy (Wesleyan) ... ... | 45 | 18 | 2 |
| Wellington ... ... | 57 | 24 | 8 |
| Hastings ... ... ... | 52 | 27 | 8 |
| Waterloo ... ... ... | 117 | 24 | — |
| Allen Town ... ... | 18 | 55 | — |
| Gloucester ... ... | 80 | 25 | — |
| Bathurst ... ... ... | 32 | 28 | 3 |
| Regent ... ... ... | 104 | 26 | 1 |
| Roquelle ... ... ... | 18 | 50 | — |
| PROTECTORATE : | | | |
| Bunumbu (Day and Central) | 65 | 37 | 6 |
| St. Joseph's, Moyamba ... | 49 | 8 | — |
| Girls' Boarding, Moyamba ... | 132 | 7 | — |
| Roman Catholic Boys', Moyamba | 16 | 44 | 19 |
| Amalgamated Day School ... | 45 | 20 | 2 |
| Bandajuma ... ... | 13 | 62 | 23 |
| Segbwema ... ... | 48 | 3 | 3 |

## TABLE VII.

*Incidence of Avitaminosis in Schools of Freetown, the Colony and Protectorate.*

| School. | Number Examined. | Rate per cent. |
|---|---|---|
| URBAN: | | |
| Holy Trinity | 183 | 8 |
| Bethel | 80 | 2 |
| Bathurst Street | 77 | 25 |
| St. Joseph's Convent | 209 | 12 |
| Government Model | 180 | 16 |
| Buxton | 131 | 8 |
| Brookfields | 56 | 18 |
| St. Edward's | 117 | 3 |
| Cathedral | 138 | 43 |
| Ebenezer | 47 | 8 |
| Tabernacle | 33 | — |
| Christ Church | 86 | 23 |
| Samaria | 27 | 22 |
| St. Anthony's | 104 | 1 |
| Madrasa Islamia | 17 | 6 |
| ,, Amaria | 73 | 14 |
| ,, Sulaimania | 63 | 19 |
| RURAL: | | |
| Congo Town | 35 | 6 |
| Cline Town | 55 | 5 |
| Murray Town | 96 | — |
| Aberdeen | 44 | — |
| Wilberforce | 106 | 1 |
| Lumley | 53 | 2 |
| Hamilton | 34 | — |
| Goderich | 41 | 5 |
| Kissy (Church of England) | 63 | — |
| Kissy (Wesleyan) | 45 | — |
| Wellington | 57 | — |
| Hastings | 52 | — |
| Waterloo | 117 | — |
| Allen Town | 18 | — |
| Gloucester | 80 | 1 |
| Bathurst | 32 | — |
| Regent | 104 | 2 |
| Rokelle | 18 | — |
| PROTECTORATE: | | |
| Bunumbu (Day and Central) | 65 | — |
| St. Joseph's, Moyamba | 49 | 2 |
| Girls' Boarding, Moyamba | 132 | 8 |
| Roman Catholic Boys', Moyamba | 16 | — |
| Amalgamated Day School, Moyamba | 45 | 4 |
| Bandajuma | 13 | 8 |
| Segbwema | 48 | — |

## TABLE VIII.

*Number of Children below average weight and nutrition for their age in Schools of Freetown, the Colony and Protectorate.*

| School. | Number Examined. | Rate per cent. |
|---|---|---|
| URBAN: | | |
| Holy Trinity | 183 | 11 |
| Bethel | 80 | 11 |
| Bathurst Street | 77 | 21 |
| St. Joseph's Convent | 209 | 14 |
| Government Model | 180 | 15 |
| Buxton | 131 | 4 |
| Brookfields | 56 | 12 |
| St. Edward's | 117 | 9 |
| Cathedral | 138 | 4 |
| Ebenezer | 47 | 2 |
| Tabernacle | 33 | 15 |
| Christ Church | 86 | 15 |
| Samaria | 27 | 27 |
| St. Anthony's | 104 | 86 |
| Madrasa Islamia | 17 | 18 |
| ,, Amaria | 73 | 27 |
| ,, Sulaimania | 63 | 8 |
| RURAL: | | |
| Congo Town | 35 | 8 |
| Cline Town | 55 | 13 |
| Murray Town | 96 | 8 |
| Aberdeen | 44 | 14 |
| Wilberforce | 106 | 13 |
| Lumley | 53 | 4 |
| Hamilton | 34 | 19 |
| Goderich | 41 | 2 |
| Kissy (Church of England) | 63 | 63 |
| Kissy (Wesleyan) | 45 | 2 |
| Wellington | 57 | 7 |
| Hastings | 52 | 11 |
| Waterloo | 117 | 6 |
| Allen Town | 18 | 11 |
| Gloucester | 80 | 4 |
| Bathurst | 32 | 3 |
| Regent | 104 | 12 |
| Rokelle | 18 | — |
| PROTECTORATE: | | |
| Bunumbu (Day and Central) | 65 | 3 |
| St. Joseph's, Moyamba | 49 | — |
| Girls' Boarding, Moyamba | 132 | 4 |
| Roman Catholic Boys', Moyamba | 16 | 6 |
| Amalgamated Day School, Moyamba | 45 | 4 |
| Bandajuma | 13 | — |
| Segbwema | 48 | — |

## TABLE IX.

*Incidence of Worm infection in Schools of Freetown, the Colony and Protectorate.*

| School. | Number of Specimens of Faeces examined. | Rate per cent. | | Other Worm Infections. |
|---|---|---|---|---|
| | | Round-worm Eggs. | Hook-worm Eggs. | |
| URBAN: | | | | |
| Holy Trinity | 31 | 29 | — | 3 |
| St. Joseph's Convent | 72 | 11 | 5 | 10 |
| Government Model | 52 | 17 | 4 | 8 |
| Brookfields | 26 | 11 | 4 | 4 |
| Christ Church | 39 | 10 | 2 | 13 |
| Ebenezer | 9 | 11 | — | — |
| Bathurst Street | 9 | 22 | 22 | 22 |
| Bethel | 18 | 11 | 5 | 11 |
| Madrasa Sulaimania | 17 | 76 | — | 6 |
| ,, Islamia | 5 | 60 | — | 20 |
| RURAL: | | | | |
| Regent | 64 | 24 | 1 | 12 |
| Gloucester | 30 | 27 | 3 | 3 |
| Bathurst | 12 | 33 | — | — |
| Lumley | 9 | — | 11 | — |
| Goderich | 7 | 71 | 14 | — |
| Congo Town | 20 | 60 | — | 15 |
| Cline Town | 24 | 29 | 4 | 12 |
| Kissy | 16 | 50 | — | — |
| PROTECTORATE: | | | | |
| Moyamba (U.B.C.) | 44 | 68 | 9 | 2 |
| Bunumbu (Day and Central) | 64 | 53 | 17 | 3 |
| Segbwema (Girls') | 25 | 44 | 20 | 4 |
| Bandajuma | 13 | 46 | 31 | — |

## TABLE X.

## LATRINE ACCOMMODATION IN SCHOOLS INSPECTED IN FREETOWN AND COLONY.

*Percentage reckoned on average attendance for the year 1930.*
*Latrine—number of buckets or seats provided, not number of compartments.*

| School. | Average annual Attendance. | Number of Latrines | Rate per cent. |
|---|---|---|---|
| URBAN : | | | |
| Tabernacle ... ... | 79 | — | — |
| Madrasa Amaria ... ... | 77 | — | — |
| ,, Sulaimania ... | 78 | — | — |
| ,, Islamia ... ... | 151 | 1 | 0·6 |
| Bethel ... ... ... | 75 | 2 | 2·6 |
| Holy Trinity ... ... | 293 | 6 | 2·04 |
| Model ... ... ... | 310 | 13 | 4·1 |
| St. Joseph's ... ... | 320 | 26 | 8·1 |
| St. Edward's ... ... | 324 | 18 | 5·5 |
| St. Anthony's ... ... | 222 | 9 | 4·09 |
| Cathedral ... ... | 385 | 8 | 2·07 |
| Ebenezer ... ... | 177 | 4 | 2·2 |
| Bathurst Street ... ... | 96 | 2 | 2 |
| Samaria ... ... | 140 | 1 | 0·7 |
| Christ Church ... ... | 75 | 2 | 2·6 |
| Buxton ... ... ... | 417 | 10 | 2·3 |
| Brookfields ... ... | 60 | 6 | 10 |
| Cline Town ... ... | 45 | 4 | 8·8 |
| Aberdeen ... ... | 62 | — | — |
| Goderich ... ... | 68 | — | — |
| Hamilton ... ... | 26 | — | — |
| Allen Town ... ... | 26 | — | — |
| Congo Town ... ... | 23 | 2 | 8·6 |
| Murray Town ... ... | 100 | 3 | 3 |
| Wilberforce ... ... | 146 | 11 | 7·5 |
| Bathurst ... ... | 25 | 1 | 4 |
| Gloucester ... ... | 67 | 2 | 2·9 |
| Regent ... ... ... | 134 | 2 | 1·4 |
| Kissy ... ... ... | 180 | 8 | 4·4 |
| Wellington ... ... | 85 | 2 | 2·3 |
| Hastings ... ... | 166 | 2 | 1·2 |
| Waterloo ... ... | 151 | 2 | 1·3 |
| Rokelle ... ... | 25 | 2 | ·8 |

## TABLE XI.

## SCHOOL CLINIC.

February to November, 1930.

| | |
|---|---|
| New cases | 1,519 |
| Old cases | 810 |
| Total attendances | 2,329 |

Some of the diseases treated were:—

| | |
|---|---|
| Malaria | 1,167 |
| Worms | 29 |
| Scabies | 155 |
| Bronchitis | 178 |
| Avitaminosis | 131 |
| Other External Injuries | 82 |
| Sprains, Dislocations' Fractures | 12 |

## SCHOOLS REPRESENTED AT THE CLINIC.

February to November, 1930.

St. Joseph's Convent
St. Edward's
St. Anthony's
St. Thomas's
Cathedral
Model
Bathurst Street
Ebenezer
Bethel
Holy Trinity
Buxton
Tabernacle
Samaria
Christ Church
Albert Academy
Girls' Vocational
Madrasa Islamia
Madrasa Amaria
Madrasa Sulaimania
Congo Town
Aberdeen
Murray Town
Wilberforce
Lumley
Goderich
Hamilton
Wellington
Brookfields.

Number of Children sent to the School Clinic by the Nurse:—

| | |
|---|---|
| Christ Church | 45 |
| St. Joseph's A. | 35 |
| St. Joseph's B. | 38 |
| Tabernacle | 25 |
| Madrasa Amaria | 59 |
| Madrasa Sulaimania | 38 |
| Samaria | 14 |
| Bathurst Street | 24 |
| Buxton | 47 |
| Cathedral | 44 |
| St. Anthony's | 21 |
| Ebenezer | 29 |
| Government Model | 27 |
| Bethel | 37 |
| Holy Trinity | 20 |
| Total | 503 |

M. McDOWALL.

## *E*—REPORT ON INFANT WELFARE.

### (*a*) Connaught Hospital and Campbell Street.

As in the past, the Infant Welfare Clinics were held at 99 Campbell Street on Mondays and Wednesdays and at the Connaught Hospital on Fridays.

Drs. Wright and Renner were in charge until 1st September and Dr. Allan for the remainder of the year.

The number who attend the clinics regularly is very gratifying, but the vast majority attend spasmodically, usually when the child has become really ill.

In December, there was a considerable decrease in the number of attendances. This I attribute to the fact that the Baby Competition took place at the beginning of December and that the mothers had no further immediate incentive to attend.

The main diseases treated were malaria and bronchitis. From September onwards an abnormally high percentage complained of cough. Fortunately, few cases of pneumonia were met with.

The Annual Baby Competition was held in the Victoria Park on 6th December. Children from the Connaught Hospital, Campbell Street and the Princess Christian Mission Hospital were entered for the competition. The judges were Drs. Waston, Cathcart, Pratt and Reffell. Mrs. Goddard distributed the prizes. The competition was undoubtedly a great success.

Pamphlets were distributed freely as in the past, giving hints to expectant mothers and on child welfare.

The funds necessary for catering for the mothers on competition day were collected from the various firms and from members of the department, while the prize money was given by the Government.

W. ALLAN,
*Medical Officer.*

*Report of Health Visitor.*

| Months. | Newly Born. | New Cases. | Repeated Visits. |
|---|---|---|---|
| January ... ... ... ... | 50 | 44 | 168 |
| February ... ... ... ... | 44 | 49 | 224 |
| March ... ... ... ... | 47 | 57 | 223 |
| April ... ... ... ... | 28 | 38 | 159 |
| May ... ... ... ... | 48 | 51 | 227 |
| June ... ... ... ... | 41 | 60 | 288 |
| July ... ... ... ... | 47 | 85 | 244 |
| August ... ... ... ... | 27 | 71 | 215 |
| September ... ... ... ... | 50 | 37 | 207 |
| October ... ... ... ... | 46 | 55 | 259 |
| November ... ... ... ... | 54 | 38 | 221 |
| December ... ... ... ... | 45 | 44 | 174 |
| Total ... ... | 527 | 629 | 2,609 |

*Connaught Hospital.*

| Months. | Old Cases. | New Cases. | Total. |
|---|---|---|---|
| January ... ... ... | 192 | 24 | 216 |
| February ... ... ... | 170 | 27 | 197 |
| March ... ... ... ... | 225 | 21 | 246 |
| April ... ... ... ... | 179 | 16 | 195 |
| May ... ... ... ... | 265 | 26 | 291 |
| June ... ... ... ... | 247 | 34 | 281 |
| July ... ... ... ... | 285 | 38 | 323 |
| August ... ... ... ... | 356 | 31 | 387 |
| September ... ... ... | 298 | 33 | 331 |
| October ... ... ... ... | 428 | 26 | 454 |
| November ... ... ... | 346 | 14 | 360 |
| December ... ... ... | 75 | 12 | 87 |
| Total ... | 3,066 | 302 | 3,368 |

*Campbell Street.*

| Months. | Old Cases. | New Cases. | Total. |
|---|---|---|---|
| January ... ... ... | 219 | 25 | 244 |
| February ... ... ... | 222 | 16 | 238 |
| March ... ... ... | 271 | 20 | 291 |
| April ... ... ... | 206 | 18 | 224 |
| May ... ... ... | 236 | 23 | 259 |
| June ... ... ... | 228 | 20 | 248 |
| July ... ... ... | 303 | 37 | 340 |
| August ... ... ... | 228 | 21 | 249 |
| September ... ... ... | 263 | 19 | 282 |
| October ... .. ... | 266 | 13 | 279 |
| November ... ... ... | 303 | 20 | 323 |
| December ... ... ... | 195 | 21 | 216 |
| Total ... | 2,940 | 253 | 3,193 |

| | |
|---|---|
| Total attendances for the year ... | 6,561 |
| Total new individuals ... | 555 |

### (*b*) Princess Christian Mission Hospital.

One Health Visitor is working in the East Ward. Her duties are as follows:—

(*a*) To pay a visit to all new born babies whose addresses are sent to her week by week from the registry office.

(*b*) To enquire if there are any unregistered new-born babies in the district and to visit them.

(*c*) To pay return visits to all children under three years of age, in that district.

(*d*) To visit ailing children who have attended the clinic, to see that parents carry out the doctor's orders.

(*e*) To give advice on Mothercraft to the mothers and to invite parents to bring their children to the Infant Clinic, Princess Christian Mission Hospital.

That the work has been faithfully performed this year, there is no question. The nurse has visited 531 new born babies and paid 3,464 return visits, in the district.

The numbers on the Infant Clinic register however, show that 2,300 new cases attended the clinic during 1930. The name and address of each new case is registered and although most of the children were resident in Freetown, patients came from the following villages:—

Allen Town
Wellington
Moyamba
Kissy
Gloucester
Leicester
Charlotte
Regent
Lumley
Aberdeen
Wilberforce
Goderich
Murray Town.

The fact that the clinic is held on a Thursday which is a market day, indicates that trading women come from the villages into town.

Altogether, there were 12,001 attendances at the clinic. But for the loyal support of Dr. Elliott and the faithful service of the whole staff of the Princess Christian Mission Hospital, the patients could not have been dealt with in one morning. Our thanks are due also to the ladies who kindly gave their help. The average attendance was over 250 babies.

In view of the growth of the work it would seem advisable to hold the clinic on two days of the week instead of on one day.

At the clinic, preventive and curative work goes on side by side. The mothers liste attentively and carry out advice on infant feeding. At the same time ailing children for example, those with malaria, bronchitis, rickets, beriberi, syphilis, yaws an ophthalmia neonatorum received treatment. One or two children with the latter complain are seen every month. The results of treatment have been very good. This is due to th following up of the Health Visitor and the fact that the baby can come for daily treatmen to the Princess Christian Mission Hospital.

Parents whose children are very ill are not infrequently persuaded to allow thei children to remain in hospital for treatment.

The following table shows the number of visits made by the Health Visitor in th East Ward in 1930:—

| Months. | Number of visits paid to New-born babies. | Number of Return Visits. |
|---|---|---|
| January ... ... ... | 55 | 328 |
| February ... ... ... | 41 | 312 |
| March ... ... ... | 42 | 350 |
| April ... ... ... | 65 | 144 |
| May ... ... ... | 46 | 277 |
| June ... ... ... | 39 | 334 |
| July ... ... ... | 45 | 346 |
| August ... ... ... | 48 | 243 |
| September ... .. | 38 | 323 |
| October .. ... ... | 33 | 247 |
| November ... ... | 41 | 291 |
| December ... ... ... | 38 | 269 |
| Total ... ... | 531 | 3,464 |

The total number of visits paid was 3,995.

M. McDOWALL.

## *F*—ANTE-NATAL CLINIC—CAMPBELL STREET CENTRE.

The Clinic was held throughout the year every Tuesday morning as formerly. Drs. Wright and Renner were in charge for varying periods until the end of August and Dr. Allan from 1st September onwards.

The attendances for each month were as follows:—

| Months. | Old Cases. | New Cases. | Total. |
|---|---|---|---|
| January ... ... ... | 127 | 25 | 152 |
| February ... ... ... | 126 | 24 | 150 |
| March ... ... ... ... | 130 | 34 | 164 |
| April ... ... ... ... | 192 | 39 | 231 |
| May ... ... ... ... | 142 | 25 | 167 |
| June ... ... ... ... | 113 | 30 | 143 |
| July ... ... ... ... | 216 | 39 | 255 |
| August ... ... ... ... | 163 | 29 | 192 |
| September ... ... ... | 182 | 37 | 219 |
| October ... ... ... | 140 | 25 | 165 |
| November ... ... ... | 123 | 21 | 144 |
| December ... ... ... | 152 | 25 | 177 |
| Total ... | 1,806 | 353 | 2,159 |

Of the 353 new cases, 332 were actually pregnant, 213 of which were multigravidae and 119 primagravidae. A large percentage of the non-pregnant women were cases of pseudoeyesis.

As quite a number of the patients approached their time, they showed signs of defective nutrition and were given cod liver oil freely. As constipation among the mothers tended to be the rule, castor oil was also given in large quantities.

In the examination of new cases it was noted that approximately 50 per cent. showed only half-an-inch difference between the inter-cristal and inter-spinous diameters. This agrees with Dr. Wright's findings in the 1928 report.

The pelvis in these diameters is on the average, half-an-inch to an inch narrower than the normal European pelvis.

## G—VENEREAL DISEASES CLINIC.

There were 484 individual cases treated during the year with 1,226 subsequent attendances. Of the 484 cases 25 were women.

The following conditions were diagnosed and treated:—

| | |
|---|---|
| Gonorrhoea | 234 |
| Urethritis | 7 |
| Gonorrhoeal orchitis | 17 |
| Gonorrhoeal arthritis | 13 |
| Gonorrhoeal rheumatism | 10 |
| Gonorrhoeal opthalmia | 3 |
| Gonorrhoeal epididymitis | 2 |
| Orchitis | 19 |
| Vaginitis | 2 |
| Balanitis | 2 |
| Paraphimosis | 1 |
| Stricture urethra | 2 |
| Perineal abscess | 1 |
| Fistula | 1 |
| Condyloma | 2 |
| Bubo | 8 |
| Inguinal adenitis | 4 |
| Rheumatism | 3 |
| Primary syphilis | 5 |
| Chancre | 37 |
| Multiple chancres | 3 |
| Penile ulcer | 16 |
| Penile abrasions | 1 |
| Scrotal ulcer | 7 |
| Vaginal ulcer | 2 |
| Secondary syphilis | 4 |
| Syphilitic pharyngitis | 1 |
| Tertiary syphilis | 13 |
| Syphilitic hemiplegia | 1 |
| Syphilitic ulcers | 2 |
| Paresis | 1 |
| Ulcers | 7 |
| Periostitis | 1 |
| Necrosis jaw | 1 |
| Yaws | 2 |
| Undiagnosed | 49 |
| Total | 484 |

A. CATHCART,
*Medical Officer.*

## *H*—REPORT ON THE PRINCESS CHRISTIAN MISSION HOSPITAL.

The hospital contains thirty-three beds for women and sixteen cots making a total of forty-nine.

In addition to the out-patients, there is a large Infant Welfare Clinic, also an Ante-natal Clinic which is well attended. Government subsidise this hospital to the extent of £460. The following figures show the value of the work done during the year.

| ——— | 1928. | 1929. | 1930. |
|---|---|---|---|
| Total number of out-patients ... | 8,028 | 8,556 | 11,612 |
| Admissions ... ... ... | 476 | 618 | 605 |
| Deaths ... ... ... ... | 31 | 19 | 31 |
| Births ... ... ... ... | 92 | 96 | 117 |
| Operations ... ... ... | 71 | 101 | 155 |
| Infant Welfare Clinic ... ... | 8,085 | 9,804 | 12,001 |
| Ante-natal Clinic ... ... ... | 851 | 1,013 | 1,621 |

R. A. ELLIOTT,
*Medical Officer.*